

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017
PROJECT BASELINE AGREEMENT

TMS Improvements in Various Locations Project 04-2Q740

Resolution SHOPP-P-2324-02B

(to be completed by CTC)

1. FUNDING PROGRAM

- ☐ Active Transportation Program
- ☐ Local Partnership Program (Competitive)
- ☐ Solutions for Congested Corridors Program
- ☒ State Highway Operation and Protection Program
- ☐ Trade Corridor Enhancement Program

2. PARTIES AND DATE

- 2.1 This Project Baseline Agreement (Agreement) effective on October 18, 2023 (will be completed by CTC), is made by and between the California Transportation Commission (Commission), the California Department of Transportation (Caltrans), the Project Applicant, Caltrans, and the Implementing Agency, Caltrans, sometimes collectively referred to as the "Parties".

3. RECITAL

- 3.1 Whereas at its 5/13/2020 meeting the Commission approved the State Highway Operation and Protection Program and included in this program of projects the TMS Improvements in Various Locations Project 04-2Q740, the parties are entering into this Project Baseline Agreement to document the project cost, schedule, scope and benefits, as detailed on the Project Programming Request Form attached hereto as **Exhibit A**, the Project Report attached hereto as **Exhibit B**, the Performance Metrics Form, if applicable, attached hereto as **Exhibit C**, as the baseline for project monitoring by the Commission.
- 3.2 The undersigned Project Applicant certifies that the funding sources cited are committed and expected to be available; the estimated costs represent full project funding; and the scope and description of benefits is the best estimate possible.

4. GENERAL PROVISIONS

The Project Applicant, Implementing Agency, and Caltrans agree to abide by the following provisions:

- 4.1 To meet the requirements of the Road Repair and Accountability Act of 2017 (Senate Bill [SB] 1, Chapter 5, Statutes of 2017) which provides the first significant, stable, and on-going increase in state transportation funding in more than two decades.
- 4.2 To adhere, as applicable, to the provisions of the Commission:
- ☐ Resolution , "Adoption of Program of Projects for the Active Transportation Program", dated
- ☐ Resolution , "Adoption of Program of Projects for the Local Partnership Program", dated
- ☐ Resolution , "Adoption of Program of Projects for the Solutions for Congested Corridors Program", dated
- ☒ Resolution G-20-40, "Adoption of Program of Projects for the State Highway Operation and Protection Program", dated 5/13/2020
- ☐ Resolution , "Adoption of Program of Projects for the Trade Corridor Enhancement Program", dated

- 4.3 All signatories agree to adhere to the Commission's Guidelines. Any conflict between the programs will be resolved at the discretion of the Commission.
- 4.4 All signatories agree to adhere to the Commission's SB 1 Accountability and Transparency Guidelines and policies, and program and project amendment processes.
- 4.5 Caltrans agrees to secure funds for any additional costs of the project.
- 4.6 Caltrans agrees to report to Caltrans on a quarterly basis; on the progress made toward the implementation of the project, including scope, cost, schedule, and anticipated benefits/performance metric outcomes.
- 4.7 Caltrans agrees to prepare program progress reports on a semi-annual basis and include information appropriate to assess the current state of the overall program and the current status of each project identified in the program report.
- 4.8 Caltrans agrees to submit a timely Completion Report and Final Delivery Report as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.9 Caltrans agrees to submit a timely Project Performance Analysis as specified in the Commission's SB 1 Accountability and Transparency Guidelines.
- 4.10 All signatories agree to maintain and make available to the Commission and/or its designated representative, all work related documents, including without limitation engineering, financial and other data, and methodologies and assumptions used in the determination of project benefits and performance metric outcomes during the course of the project, and retain those records for six years from the date of the final closeout of the project. Financial records will be maintained in accordance with Generally Accepted Accounting Principles.
- 4.11 The Inspector General of the Independent Office of Audits and Investigations has the right to audit the project records, including technical and financial data, of the Department of Transportation, the Project Applicant, the Implementing Agency, and any consultant or sub-consultants at any time during the course of the project and for six years from the date of the final closeout of the project, therefore all project records shall be maintained and made available at the time of request. Audits will be conducted in accordance with Generally Accepted Government Auditing Standards.

5. SPECIFIC PROVISIONS AND CONDITIONS

- 5.1 Project Schedule and Cost
See Project Programming Request Form, attached as Exhibit A.
- 5.2 Project Scope
See Project Report or equivalent, attached as Exhibit B. At a minimum, the attachment shall include the cover page, evidence of approval, executive summary, and a link to or electronic copy of the full document.
- 5.3 Performance Metrics
See Performance Metrics Form, if applicable, attached as Exhibit C.

Attachments:

- Exhibit A: Project Programming Request Form
Exhibit B: Project Report
Exhibit C: Performance Metrics Form (*if applicable*)

SIGNATURE PAGE
TO
PROJECT BASELINE AGREEMENT

Project Name TMS Improvements in Various Locations Project 04-2Q740

Resolution SHOPP-P-2324-02B

(to be completed by CTC)

Muthanna Omran

Digitally signed by Muthanna Omran
Date: 2023.08.30 17:34:41 -07'00'

8/30/2023

Date

Muthanna Omran

Project Manager

Project Applicant

Date

Implementing Agency

Dina El-Tawansy

08/31/2023

Date

Dina El-Tawansy

District Director

California Department of Transportation

Tony Tavares

09/26/2023

Date

Tony Tavares

Director

California Department of Transportation

Tanisha Taylor

11/17/2023

Date

Tanisha Taylor

Executive Director

California Transportation Commission

Baseline agreement information was extracted from Caltrans' project data systems. Project description, funding and performance measures are from CTIPS. Project delivery milestones are from PRSM. All information is current and accurate.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BASELINE AGREEMENT

Date:

09/20/23 07:18:04 AM

District	EA	Project ID		PPNO	Project Manager
04	2Q740	0419000044		2027J	OMRAN, MUTHANNA S
County	Route	Begin Postmile	End Postmile	Implementing Agency	
ALA	880			PA&ED	Caltrans
				PS&E	Caltrans
				Right of Way	Caltrans
				Construction	Caltrans

Project Nickname

INSTALL TOS/RM AND FIBERS

Location/Description

In Alameda, San Francisco, and San Mateo Counties, on Routes 80, 101, 880, and 980 at various locations. Install and upgrade Transportation Management System (TMS) elements including Closed Circuit Television (CCTV) cameras, Vehicle Detection Systems (VDS), Changeable Message Signs (CMS), ramp meters, and fiber optic cable.

Legislative Districts

Assembly: 17, 18, 19 **Senate:** 10, 11, 13 **Congressional:** 12, 13, 14

PERFORMANCE MEASURES

	Primary Asset	Good	Fair	Poor	New	Total	Units
Existing Condition	Transportation Management Systems (Elements)	24	0	0	0	24	Each
Programmed Condition	Transportation Management Systems (Elements)	24	0	0	60	84	Each

Project Milestone

	Actual	Planned
Project Approval and Environmental Document Milestone	05/24/23	
Right of Way Certification Milestone		11/04/24
Ready to List for Advertisement Milestone		12/02/24
Begin Construction Milestone (Approve Contract)		07/07/25

FUNDING (Allocated amounts are shaded)

Component	Fiscal Year	SHOPP					Total
PA&ED	20/21	2,155					2,155
PS&E	21/22	10,958					10,958
RW Support	21/22	141					141
Const Support	22/23	11,071					11,071
RW Capital	22/23	63					63
Const Capital	22/23	78,761					78,761
Total		103,149					103,149

Memorandum

To: LYLE STOCKTON
SHOPP SB-1 BASELINE AGREEMENT
HQ PROGRAM MANAGEMENT

Date: September 19, 2023

File: 04-2Q740 (0419000044)
ALA, SM, SF, & SCL
– 80, 101, 880, 92, 237 & 980

From: MUTHANNA OMRAN *Muthanna Omran*
Regional Project Manager
Chief, Office of BATA Funded Projects
Program-Project Management
District 4 (Caltrans Bay Area)

Subject: ACKNOWLEDGEMENT OF PROJECT SCHEDULE UPDATE FROM BASELINE

This memorandum is written to accompany the SB-1 Baseline Agreement for this TMS Improvements in Alameda, San Francisco, San Mateo and Santa Clara Counties at routes 80, 92, 101, 237, 880, and 980 under EA 04-2Q740.

On May 13, 2020, this project was programmed as a new project into the SHOPP program for FY 22/23 RTL delivery. Due to the complexity of the TMS Improvements in various locations, the Project Report approval was delayed, and finally signed on May 24, 2023. In June 2023 CTC meeting, the project received an eighteen-month time extension to achieve the Ready to List (RTL) milestone, and construction delivery. All future milestone delivery dates were revised to match the time extension and incorporated in this baseline agreement.

The Project Report estimate includes additional scope items related to "Connected Bay Area" initiative which is intended to improve the ITS communications between the local agencies which is a major regional objective. The Metropolitan Transportation Commission (MTC) is the sponsor of this initiative for which a \$7.5M in funds contribution will be added in the construction phase of 04-2Q740. The District plans on incorporating this change by a PCR at construction allocation vote. The additional scope items include

additional Fiber optics trunk-line segments in Alameda and Santa Clara Counties on Routes 880, 92, and 237. To incorporate the MTC's additional scope items, MTC and District 4 executed a cooperative agreement to provide funding for the related efforts in PAED and PS&E phases. The MTC items were not part of the initial programming request reflected in the current CTIPS. However, the MTC items were included in the Project Report and Environmental Document. D4 is currently in the process of executing another cooperative agreement to facilitate adding \$7.5 million from MTC to the project's construction capital to cover the MTC items. It's important to note that the programmed amount of \$78.76 million does not account for MTC's contribution of \$7.5 million. When the MTC's \$7.5 million is successfully added to the initial \$78.76 million, the project budget becomes \$86.26 million, which exceeds the escalated construction capital of \$85.2 million, listed in the approved project report.

PROJECT'S MILESTONES:

Milestone	Date
PA&ED (M200)	5/24/2023 (Actual)
R/W Cert (M410)	11/04/2024 (Target)
RTL (M460)	12/02/2024 (Target)
Approve Contract (M500)	7/7/2025 (Target)

CC:

Doanh Nguyen (SFP)
Robert Effinger (Acting Deputy District Director/Design)
Mohammad Suleiman (Chief, Division PPM-West)

Project Report

For Project Approval

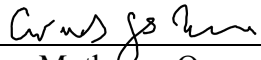
In Alameda, San Francisco, San Mateo, and Santa Clara Counties
At Various Locations

I have reviewed the right of way information contained in this report and the Right of Way Data Sheet attached hereto, and find the data to be complete, current and accurate:

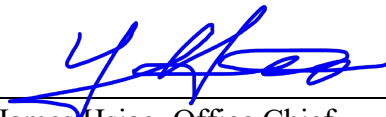


Julie McDaniel, Deputy District Director,
Right of Way and Land Surveys

APPROVAL RECOMMENDED:



for Muthanna Omran)
Muthanna Omran, Regional Project Manager,
Project Management West



James Hsiao, Office Chief,
Design Special Projects

PROJECT APPROVED:

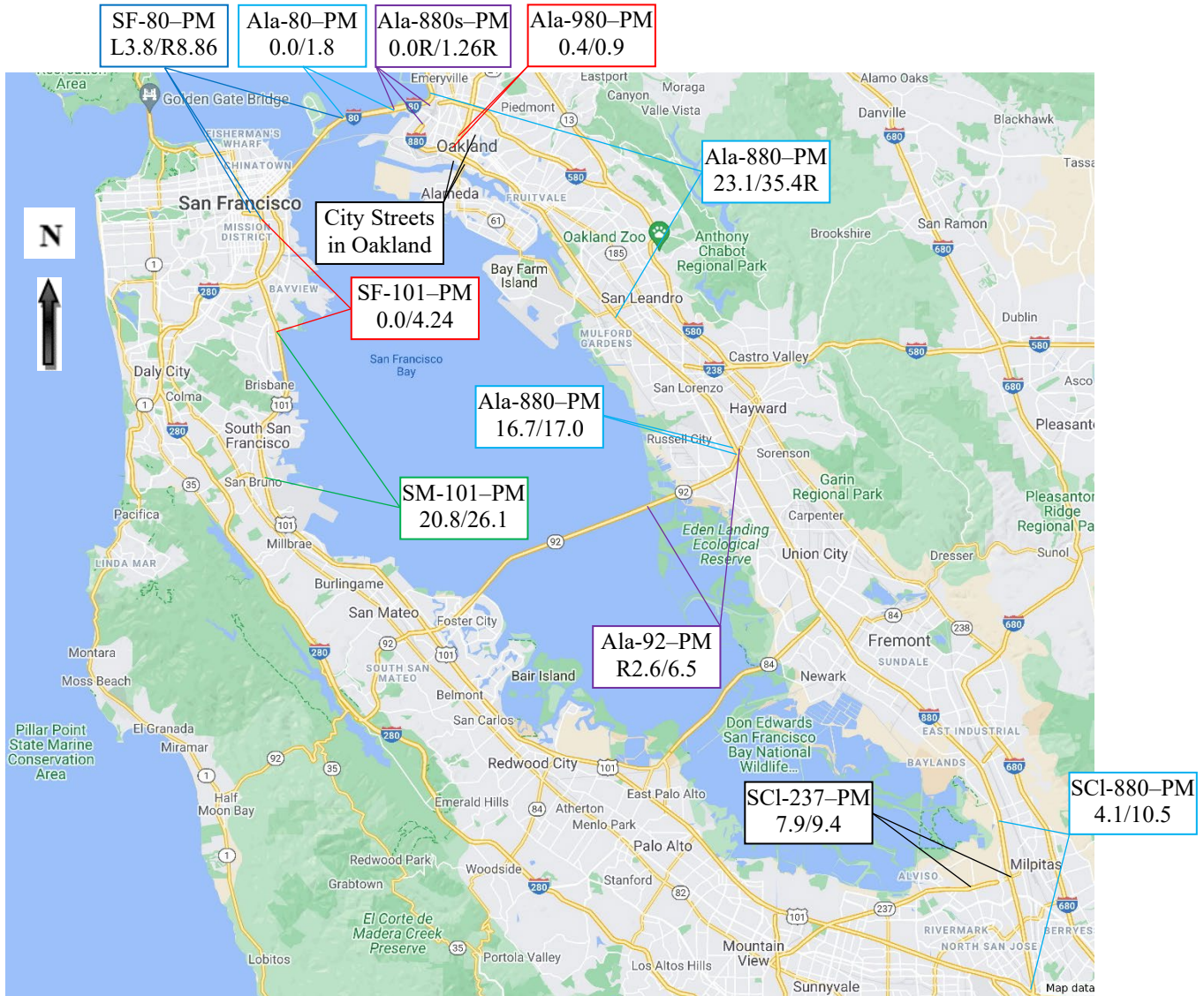


Helena (Lenka) Culik-Caro
Deputy District Director, Design

May 24, 2023

Date

Vicinity Map



In Alameda, San Francisco, San Mateo, and Santa Clara Counties at Various Locations.

This Project Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data on which the recommendations, conclusions, and decisions are based.

Van Hew

12-30-2022

VAN HEW
REGISTERED CIVIL ENGINEER

DATE



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1. INTRODUCTION

Project Description:

The purpose of the project is to install Transportation Management System elements to improve traffic congestion management in Alameda, San Francisco, San Mateo, and Santa Clara Counties on Routes 80, 92, 101, 237, 880/880s, and 980 at various locations (see Attachment A for a location map). The elements to be installed include fiber optic systems (trunk line), ramp meters, closed-circuit televisions (CCTVs), traffic monitoring stations (TMSs), vehicle detection stations (VDSs), a changeable message sign (CMS), and maintenance vehicle pullouts (MVPs). The following table lists the key features of the project.

Project Limits	04 - Ala, SF, SM, SCI - 80, 92, 101, 237, 880/880s, 980 – PM Various*	
Number of Alternatives	Two (One Build Alternative and the No-Build Alternative)	
	Current Cost Estimate:	Escalated Cost Estimate:
Capital Outlay Support	\$27,123,000	\$27,123,000
Capital Outlay Construction	\$79,153,000	\$85,203,000
Capital Outlay Right of Way	\$319,000	\$319,000
Funding Source	SHOPP (20.XX.201.315) – Transportation Management Systems	
Funding Year	Fiscal Year 2022/23	
Type of Facility	Multi-lane freeways	
Number of Structures	68	
SHOPP Project Output	CMS – 1 EA CCTV – 45 EA Communications (fiber optics) – 43.6 linear miles Vehicle detection – 33 EA Ramp meter – 5 EA TMS structure component – 82 EA TMS technology component – 84 EA	
Environmental Determination or Document	Categorical Exemption (CEQA)/Categorical Exclusion (NEPA)	
Legal Description	In Alameda, San Francisco, San Mateo, and Santa Clara Counties at various locations	
Project Development Category	Category 5	

* For Route 880s, the “s” suffix identifies supplemental routes such as spurs, supplemental truck lanes, and bus lanes where all or part of the roadway is on a separate alignment.

Notes:

Ala = Alameda County

CCTV = closed-circuit television

CEQA = California Environmental Quality Act

CMS = changeable message sign

EA = each

NEPA = National Environmental Policy Act

SCI = Santa Clara County

SF = San Francisco County

SHOPP = State Highway Operation and Protection Program

SM = San Mateo County

TMS = traffic monitoring station

2. RECOMMENDATION

It is recommended that this Project Report (PR) be approved with the Build Alternative and that the project proceed to the Plans, Specifications, and Estimate (PS&E) phase.

3. BACKGROUND

Project History

On June 28, 2019, the District Director approved the Project Initiation Report (PIR), which requested that the project be programmed in the 2020 State Highway Operation and Protection Program (SHOPP). The PIR identified two alternatives for further study in the Project Approval and Environmental Document (PA&ED) phase: one Build Alternative and the No-Build Alternative.

On June 24, 2020, the California Transportation Commission (CTC) voted to approve the programming of the project into the 2020 SHOPP. On October 15, 2020, federal funding was approved under the SHOPP Mobility Program (Transportation Improvement Program [TIP] identification number [ID] – VAR170005).

On November 20, 2020, the first Project Development Team (PDT) meeting was held.

On July 19, 2021, a cooperative agreement was signed between the State of California (State) and the Metropolitan Transportation Commission (MTC). MTC agreed to provide \$1,740,000 in support funding for the State to design an additional 12 miles of fiber optic systems in Alameda and Santa Clara Counties. MTC will also provide an additional \$7,500,000 funding for construction support and capital via a future cooperative agreement. This PR will serve as the authorizing document for future cooperative agreements for this project.

A Project Change Request (PCR) was approved on May 3, 2023, to increase the Right of Way Capital Outlay from \$63,000 to \$319,000.

Community Interaction

The California Department of Transportation (Caltrans) will provide media coverage and coordinate with the cities impacted by the project to inform the public regarding traffic control plans before and during the construction phase. A Transportation Management Plan (TMP) will outline a public outreach strategy to keep the community informed about temporary traffic impacts (lane or shoulder closures) and pedestrian detours.

Existing Facility

Throughout the project limits, there are existing transportation management system elements such as CMSs, TMSs, highway advisory radios (HARs), extinguishable message signs (EMSs), and CCTV cameras.

Within the project limits in Alameda County, there are the following existing elements: On Route 92, there is 1 EMS, 12 TMSs (cabinets) that operate eastbound (EB) and/or westbound (WB) vehicle detection, and 7 CCTV cameras; on Route 880/880s, there are 7 CMSs, 1 HAR, 2 EMSs, 36 TMSs (cabinets) that operate northbound (NB) and/or southbound (SB) vehicle detection, and 28 CCTV cameras; and on Route 980, there is 1 TMS (cabinet) that operates EB and/or WB vehicle detection and 1 HAR.

Within the project limits in San Mateo County, there are the following existing elements: On Route 101, there is 1 CMS, 11 TMSs (cabinets) that operate NB and/or SB vehicle detection, 1 HAR, 1 EMS, and 8 CCTV cameras.

Within the project limits in San Francisco County, there are the following existing elements: On Route 80, there are 6 CMSs, 3 HARs, 40 TMSs (cabinets) that operate EB and/or WB vehicle detection, and 12 CCTV cameras; on Route 101, there are 4 CMSs, 13 TMSs (cabinets) that operate NB and/or SB vehicle detection, and 9 CCTV cameras.

Within the project limits in Santa Clara County, there are the following existing elements: On Route 237, there is 1 HAR and 3 CCTV cameras; on Route 880/880s, there are 11 TMSs (cabinets) that operate NB and/or SB vehicle detection, and 5 CCTV cameras.

Table 3-1 lists the geometric information for the roadways within the project limits.

Table 3-1: Roadway Geometric Information Within the Project Limits

County-Route	Post Miles	Through Traffic Lanes		Paved Shoulder Width		Median Width (ft)
		No. of Lanes	Width (ft)	Left (ft)	Right (ft)	
Ala-92	R2.6/6.5	4–8	12	5–11	8–10	20–22
Ala-880	23.1/R35.4R	8–10	12	0–10	0–10	2–12
Ala-880s	0L/1.463L	2–4	12	5–10	10	—
Ala-880s	0R/1.257R	3–6	12	5–10	8	—
Ala-980	0.42/0.63	6	12	5	10	42–70
SF-80	L3.8/R8.86	6–8	12	0	0	10–60
SF-101	0/4.24	6–10	12	8–10	8–10	6–25
SM-101	R20.8/26.1	8–12	12	8–10	8–10	18–36
SCL-237	7.9/9.4	4–8	11–12	2–10	8–10	18–42
SCL-880	4.1/10.5	6–11	12	4–13	8–10	16–40

Notes:

— = not applicable

Ala = Alameda County

SCI = Santa Clara County

SF = San Francisco County

SM = San Mateo County

4. PURPOSE AND NEED

Purpose:

The purpose of the project is to install Transportation Management System elements to improve traffic congestion management and monitoring and the communications related to traffic management.

Need:

The project is needed to install and replace Transportation Management System elements to proactively manage traffic congestion.

4A. Problem, Deficiencies, Justification

Existing Transportation Management System elements are connected by copper cables to public telecommunications (telco) services. These services are expensive and not reliable. A State-owned fiber optic network will improve the reliability and performance of these services. Also, the installation of new elements and the replacement of existing elements at the end of their service lives will improve the overall efficiency of the transportation corridors.

4B. Regional and System Planning

Corridor Overviews

Interstate 80

Interstate 80 (I-80 or Route 80) is a major commuter route that passes through four Bay Area counties—San Francisco, Alameda, Contra Costa, and Solano—and continues into the Sacramento region. I-80 connects San Francisco with the East Bay via the San Francisco–Oakland Bay Bridge (SFOBB) and is a critical goods movement route that links directly with the Port of Oakland, the nation’s fifth largest container port.

The portion of I-80 within the project limits in San Francisco County and Alameda County is a freeway with five general purpose lanes in each direction, with no managed lanes.

Rail service along the I-80 corridor is provided by the Bay Area Rapid Transit District (BART). The San Francisco Municipal Transportation Agency (Muni) provides local transit service along the corridor in San Francisco, and the Alameda–Contra Costa Transit District (AC Transit) provides transit services along the I-80 corridor in the East Bay.

State Route 92

State Route (SR) 92 is a major east-west connector in the Bay Area that links the coastal communities of San Mateo County with the rest of the Peninsula and the East Bay (via the San Mateo–Hayward Bridge). The route crosses SR 1, SR 35, SR 82, US Highway 101 (US 101), Interstate 280 (I-280), and Interstate 880 (I-880). Starting as a two-lane conventional highway at SR 1 in Half Moon Bay, SR 92 climbs and crosses the Santa Cruz Mountains and SR 35. It becomes a freeway as it passes I-280, continues over SR 82 and US 101 in Foster City, crosses San Francisco Bay via the San Mateo–Hayward Bridge, passes I-880 in Hayward in Alameda County, and terminates as a city street at its junction with Santa Clara Street, just before downtown Hayward.

The portion of SR 92 in Alameda County is a six- to eight-lane freeway with a High Occupancy Vehicle (HOV) lane in the westbound direction to the toll plaza.

No transit services are provided that cross the San Mateo–Hayward Bridge.

US Highway 101

US 101 spans 11 miles across the City and County of San Francisco and connects to the San Francisco International Airport (SFO), the Golden Gate Bridge, and SFOBB via I-80. The corridor traverses a high-density city, with several historical landmarks and a well-established public transportation system that includes a variety of local and regional bus and rail systems. In the project vicinity, US 101 is an eight-lane freeway; bicycle and pedestrian access is prohibited along this portion of the route.

The portion of US 101 in San Mateo County is an eight- to ten-lane freeway that provides access to SFO, major employers, the Port of Redwood City, and the East Bay via the Dumbarton and San Mateo–Hayward Bridges. This portion of US 101 passes through the cities of South San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos, and Redwood City.

The US 101 corridor is highly traveled, so a number of transit agencies serve it. BART has stations in South San Francisco, San Bruno, and an SFO connector. Caltrain provides commuter rail service for those traveling throughout San Mateo County and for those traveling from San Mateo County to Silicon Valley. The San Mateo County Transit District (SamTrans) serves local routes along the corridor and provides bus service with various routes on and along the corridor.

State Route 237

SR 237 constitutes an east-west route corridor in northern Santa Clara County that starts in the west at SR 82 in the city of Mountain View and ends in the east at Interstate 680 (I-680) in the city of Milpitas. The route transitions from a freeway to the west to a conventional highway to the east, after crossing I-880. SR 237 is a six-lane freeway with an Express Lane in each direction that transitions to a six-lane conventional highway east of I-880.

Interstate 880

I-880 is a south-north freeway that starts in San Jose at the I-680/I-280 interchange in Santa Clara County, runs through Santa Clara and Alameda Counties, and terminates in the City of Oakland at Grand Avenue and at the SFOBB toll plaza. The portion of I-880 that is in Santa Clara County is an 8- to 12-lane freeway with one managed lane in each direction, starting and ending the Express Lanes of SR 237. The portion of I-880 at SR 92 is a seven-lane freeway with one Express Lane in each direction. Within the project limits in Oakland, I-880 is an eight-lane freeway with one Express Lane in the southbound direction starting at Hegenberger Road. I-880 is part of the Maze in Oakland that includes the toll plaza of the SFOBB. The freeway is a five-lane freeway in each direction that connects to northbound I-80 with one managed lane in the northbound direction and a five-lane freeway connecting to I-80 toward the toll plaza with one managed lane in the toll-plaza direction.

BART and Amtrak provide connections between Silicon Valley and Oakland.

Interstate 980

Interstate 980 (I-980) is a 2-mile long freeway connection between I-880 and SR 24 in the City of Oakland. This connection is a vital link between the communities of Walnut Creek and Concord and downtown Oakland and the Oakland International Airport.

The portion of I-980 that is within the project limits is a two-lane freeway in eastbound direction and a three-lane freeway in the westbound direction.

Bart and AC Transit provide transit services within this corridor.

Federal and State Planning

Table 4-1 lists the federal and State planning characteristics of the various routes within the project limits.

Table 4-1: Federal and State Planning Characteristics of the Various Routes Within the Project Limits

Route	Functional Classification	Trucking Designations	National Highway System	State Scenic Highway	Interregional Road System
I-80	Interstate	STAA	Eisenhower Interstate	Eligible	Part of IRRS
SR 92	Principal Arterial	STAA	Other NHS Route	Not eligible	Not part of IRRS
US 101	Interstate	STAA	Non-Interstate STRAHNET Route	Not eligible	Part of IRRS
SR 237	Principal Arterial	STAA	MAP-21 NHS Principal Arterial	Not eligible	Not part of IRRS
I-880	Interstate	STAA	Eisenhower Interstate	Not eligible	Not part of IRRS
I-980	Interstate	STAA	Eisenhower Interstate	Not eligible	Not part of IRRS

Notes:

I-80 = Interstate 80

I-880 = Interstate 880

I-980 = Interstate 980

IRRS = Interregional Road System

MAP-21 = Moving Ahead for Progress in the 21st Century

NHS = National Highway System (U.S. network of strategic highways, including interstates)

SR = State Route

STAA = Surface Transportation Assistance Act
(National network allows large commercial trucks on Interstates)

STRAHNET = Strategic Highway Network

US 101 = US Highway 101

Regional Planning

The MTC is the State-designated Regional Transportation Planning Agency and the federal-designated Metropolitan Planning Organization for the San Francisco Bay Area. The MTC is responsible for the Regional Transportation Plan (RTP), a long-range planning report for the region that incorporates known financial constraints. Under Senate Bill (SB) 375, along with an updated RTP, each region in California is mandated to develop a Sustainable Communities Strategy (SCS) that promotes compact, mixed-use commercial and residential development that is walkable, bikeable, and close to mass transit, jobs, schools, shopping, parks, recreation, and other amenities to help achieve the greenhouse gas (GHG) emissions reduction targets outlined in SB 32.

In partnership with the regional planning agency Association of Bay Area Governments (ABAG), MTC developed Plan Bay Area (PBA) 2050, approved in

October 2021. PBA 2050 serves as the San Francisco Bay Area’s RTP and SCS and is the latest strategic update to PBA 2040 (from 2017). PBA 2050 consists of 35 strategies that focus on improving housing, economic growth, transportation, and the environment for the Bay Area’s nine counties. These strategies serve as a blueprint to inform the efforts of the nine counties of the Bay Area to plan and create a more resilient and equitable region over the next 30 years and beyond. Each strategy is a public policy or investment to be implemented collaboratively at the city, county, regional, or state level with equity as the priority for execution.

Local Planning

San Francisco County

The San Francisco County Transportation Authority (SFCTA) is responsible for long-range transportation planning for the city. SFCTA analyzes, designs, and funds improvements for San Francisco’s roadway and public transportation networks. SFCTA also administers and oversees the delivery of the Proposition K half-cent local transportation sales tax program. In addition, SFCTA serves as the designated County Transportation Agency for San Francisco under State law and acts as the San Francisco Program Manager for grants from the Transportation Fund for Clean Air.

San Mateo County

The City/County Association of Governments of San Mateo (C/CAG) is the designated Congestion Management Agency for San Mateo County. C/CAG adopted the San Mateo Countywide Transportation Plan for 2040 in February 2017. This plan is a long-range comprehensive transportation planning document that establishes a planning framework to use to address transportation issues and provide consistency in objectives and policies among the separate local transportation plans within the county.

In 1988, San Mateo County voters passed Measure A, which was a 20-year half-cent tax to fund transportation projects and programs for the county. The approval of Measure A created the San Mateo County Transportation Authority (SMCTA) to administer and manage the new half-cent tax revenues. In 2004, voters reauthorized Measure A and a new Transportation Expenditure Plan (TEP) for an additional 25 years (2009 to 2033).

In 2018, San Mateo County voters passed Measure W, which was a 30-year half-cent sales tax to provide the county with additional resources to improve transit and relieve traffic congestion. Fifty percent of those funds are administered by the SMCTA while the remaining fifty percent are administered by the SanTrans Board of Directors.

The TEP describes programs and projects that local agencies, cities, and residents of San Mateo County have identified. The TEP requires the SMCTA to develop a strategic plan every 5 years. The current strategic plan was developed for the 5-year period 2014 through 2019. The updated strategic plan outlines the vision, goals, and

implementation procedures for Measure A funds for the next 5 years. The update of the 2014 to 2019 strategic plan will provide funding prioritization and evaluation criteria for future projects and the procedures to initiate and implement those projects. The Final Draft Strategic Plan for 2020–2024 was released in October 2019; it outlines the principles, goals, vision, and implementation procedures for both Measure A and Measure W funds for the next 5 years. The SMCTA Board of Directors sets the overall policy direction and makes decisions for the SMCTA.

Alameda County

The Alameda County Transportation Commission (ACTC) is the designated Congestion Management Agency for Alameda County. ACTC coordinates countywide transportation planning efforts; programs local, regional, State, and federal funding; and delivers projects and programs, including those approved by voters in the Alameda County transportation expenditure plans for Measure B, Measure BB, and the Vehicle Registration Fee.

The Alameda Countywide Transportation Plan (CWTP) is a long-range policy document that guides future transportation investments, programs, policies, and advocacy for Alameda County through 2040. The Alameda CWTP identifies a number of future trends, issues, and challenges for the county, including safety and, more specifically, an increase in the number of collisions on roadways.

Santa Clara County

The Santa Clara Valley Transportation Authority (VTA) is the designated Congestion Management Agency for Santa Clara County. VTA is responsible for countywide transportation planning, including congestion management; design and construction of specific highway, pedestrian, and bicycle improvement projects; and promotion of transit-oriented development.

VTA's Valley Transportation Plan 2040 provides a long-range vision for the transportation system in Santa Clara County. Although the plan does not specifically mention the portion of I-880 within the project limits, the plan's overarching objectives are to invest in system operations, replace and rehabilitate the existing system, and preserve the investments that have already been made.

Future Projects

State Highway Operation and Protection Program

Table 4-2 lists the projects included in the SHOPP and other funding programs that are in the vicinity of the Expenditure Authorization (EA) 04-2Q740 project limits. SHOPP is the State's "fix-it-first" program; it funds the repair and preservation of the State Highway System, safety improvements, and some highway operational improvements.

Table 4-2: Projects Included in the SHOPP and Other Funding Programs That Are in the Vicinity of the EA 04-2Q740 Project Limits

County	Route	SHOPP Program/Plan	EA	Description	Cost*	Construct. Date*
SF	80	Ten-Year SHOPP	23418	Replace CCTVs and vehicle detection stations	\$4.0M	2030/31
SF	80	2020 SHOPP	2J802	Paint superstructure steel members	\$50.7M	2021/25
SF	101	2020 SHOPP	2J801	Paint superstructure steel members	\$50.3M	2021/25
SF	101	2020 SHOPP	1493G	Install vandalism-resistant fence and gates	\$6.5M	2022/25
SF	101	2020 SHOPP	2904K	Roadway rehabilitation	\$45.6M	2026/28
SF	101	2022 SHOPP	1Q820	Rehabilitate roadway; upgrade signs, barriers, and TMSs; upgrade to ADA standards	\$7.7M	2023/24
SF	101	2020 SHOPP	2K190	Replace baluster rail	\$8.2M	2023/24
SF	101	2022 SHOPP	4J970	Upgrade gates and fences	\$6.6M	2024/25
SF	101	2022 SHOPP	3A641	Road realignment	\$34.6M	2022/23
SF	101	2022 SHOPP	2Q600	Rehabilitate highway planting	\$6.8M	2025/26
SF	101	2022 SHOPP	2W250	Upgrade curb ramps and local streets	\$2.1M	2022/23
SF	101	2022 SHOPP	0Q020	Rehabilitate bridges	\$5.8M	2023/24
SF	101	2022 SHOPP	2Q460	Upgrade bridge rails	\$6.3M	2023/24
SF	101	2020 SHOPP	3G487	Steel painting for bridge	\$42.0M	2028
SF	101	2020 SHOPP	2W690	Repair fog warning system	\$333K	2022/24
SM	101	2020 SHOPP	3W820	Place polyester concrete overlay on existing bridge deck	\$9.2M	2034/35
SM	101	2022 SHOPP	1Q582	Rehabilitate pavement, upgrade signs, TMSs, rehabilitate drainage system, upgrade to ADA standards.	\$22.3M	2022/23
SM	101	2022 SHOPP	1Q580	Rehabilitate pavement	\$181.0M	2026/27
SM	101	2022 SHOPP	0Q070	Modify ramp metering and TMSs; install guardrails at ramps	\$15.7M	2022/23
SM	101	2020 SHOPP	0AA40	Minor pavement rehabilitation (CAPM)	\$9.2M	2032/33
SM	101	Ten-Year SHOPP	4W510	Replacing CCTVs, HARs, CMSs	\$28.3M	2026/27
SM	101	Ten-Year SHOPP	2J740	Proactive safety	\$12.1M	2024/25
SM	101	Ten-Year SHOPP	4W520	Ramp meter technology replacement	\$4.1M	2026/27
SM	101	Ten-Year SHOPP	4Q970	Ramp meter technology replacement	\$4.0M	2030/31
Ala	92	Ten-Year SHOPP	0AA14	Pavement	\$30.2M	2024/25
Ala	80	2022 SHOPP	15500	Install fiber optic cable and upgrade TMSs	\$110.0M	2022/23
Ala	80/880	2022 SHOPP	0W050	Install trash capture devices	\$3.5M	2025/26
Ala	80/880	2022 SHOPP	0Q180	National Pollutant Discharge Elimination System	\$8.6M	2022/23
Ala	880	Ten-Year SHOPP	4W190	Sustainability	\$3.2M	2026/27
Ala	880	Ten-Year SHOPP	2K170	Proactive safety	\$15.1M	2021/22
Ala	880	2022 SHOPP	4J540	Construct outer separation concrete barrier, install drainage system	\$8.0M	2022/23
Ala	880	2022 SHOPP	2K700	Pavement preservation	\$57.2M	2024/26
Ala	880	Ten-Year SHOPP	2J760	Bridge	\$10.1M	2021/22

County	Route	SHOPP Program/Plan	EA	Description	Cost*	Construct. Date*
Ala	880	Ten-Year SHOPP	23366	Bridge health	\$9.6M	2029/30
Ala	880	Ten-Year SHOPP	3W170	Mobility TMSs	\$17.0M	2027/28
Ala	880	Ten-Year SHOPP	3W270	Mobility TMSs	\$9.9M	2026/27
Ala	880	Ten-Year SHOPP	4W650	Mobility TMSs	\$6.5M	2026/27
Ala	880	Ten-Year SHOPP	4W660	Mobility TMSs	\$14.5M	2026/27
SCl	880	Ten-Year SHOPP	4W630	Facilities	\$47.9M	2027/28
SCl	880	Ten-Year SHOPP	4Q770	Pavement	\$59.4M	2027/28
Ala	980	Ten-Year SHOPP	23131	Drainage	\$4.0M	2029/30
Ala	980	2022 SHOPP	3K360	Upgrade vehicle detectors and traffic signal systems	\$9.2M	2022/23
Ala	Var	2022 SHOPP	3K510/ 2Q540	Replace electronics in CCTV system	\$20.1M	2022/23
SCl	237	Ten-Year SHOPP	4Q740	Pavement	\$36.4M	2026/27
SCl	237	Ten-Year SHOPP	3W540	Bridge-deck	\$5.3M	2021/22

* Costs and proposed construction dates are subject to change.

Notes:

ADA = Americans with Disabilities Act
Ala = Alameda County
CAPM = Capital Preventive Maintenance
CCTV = closed-circuit television
CMS = changeable message sign
EA = Expenditure Authorization
HAR - highway advisory radio

N/A = not applicable
SCl = Santa Clara County
SF = San Francisco County
SHOPP = State Highway Operation and Protection Program
SM = San Mateo County
TMS = traffic monitoring station
Var = various

PBA 2050

Table 4-3 lists the projects included in PBA 2050, the Bay Area's RTP, that are in the vicinity of the EA 04-2Q740 project limits.

Table 4-3: Projects Included in PBA 2050 That Are in the Vicinity of the EA 04-2Q740 Project Limits

Route	RTP ID	Description	Cost*	Project Completion Date*
SF-80/101	21-T12-123	This program includes funding to implement improvements to existing express bus service along US 101 and I-280.	\$240M	2021–2035
SF-80	21-T06-014	This program includes funding to implement interchange improvements at Yerba Buena Island.	\$281M	2021–2035
SF	21-T10-091	Congestion pricing for downtown San Francisco	\$1,090M	2021–2035
SF	21-T10-092	Congestion pricing for Treasure Island	\$1,300M	2021–2035
SF	21-T11-097	Ferry Building Mission Bay	\$271M	2021–2035
SF	21-T11-110	This program includes funding to extend Caltrain rail service from 4th St/ Townsend St in San Francisco to the Salesforce Transit Center in downtown San Francisco, including two new stations.	\$3,940M	2021–2035

Route	RTP ID	Description	Cost*	Project Completion Date*
SM	21-T06-018	This program includes funding to implement interchange improvements at US 101 and El Camino Real	\$47M	2021–2035
SM-101/380	21-T12-119	This program includes funding to implement new express bus service along US 101 and I-280 (on Express Lanes where available) from Foster City, San Mateo, and Burlingame to downtown San Francisco	\$478M	2021–2035
SCl-880	21-T06-025	This program includes funding to implement interchange improvements at Montague Expy.	\$19M	2036–2050
SCl-237	21-T06-043	This program includes funding to implement interchange improvements at SR 85, Great American Pkwy, Lawrence Expy / Caribbean Dr, Java Dr, Maude Ave, and Middlefield Rd; intersection improvements at El Camino Real / Grant Rd; a new westbound auxiliary lane between McCarthy to N 1st St; new eastbound auxiliary lanes between Mathilda Ave and Fair Oaks Ave; and new auxiliary lanes between Coyote Creek / Zanker Rd to N 1st St.	\$413M	Var
SCl	21-T10-064	This program includes funding to implement improvements to existing bus service. Improvements include transit priority infrastructure; transit signal priority; bus lanes; queue jumps; stop improvements; faster fare collection equipment; off-board fare collection; all-door boarding; and software and hardware upgrades for improved headway management.	\$300M	2036–2050
SCl	21-T11-109	This program includes funding to extend BART's existing Green Line and Orange Line rail services from Berryessa to Santa Clara, including four new stations and Park and Ride facilities.	\$10,100M	2021–2035
Ala	21-T11-104	This program includes funding to implement a new BART rail station at Irvington in Fremont, including a Park and Ride facility and complementary route changes to existing AC Transit bus service.	\$230M	2021–2035
Ala	21-T11-111	This program includes funding to implement improvements to existing Capitol Corridor rail service between Oakland and Newark/Fremont.	\$305M	2021–2035
Ala-880	21-T06-024	This program includes funding to implement interchange improvements between Oak St and Broadway, Whipple Rd and Industrial Pkwy, Winton Ave and A St, 23rd Ave and 29th Ave, and 42nd Ave and High St.	\$637M	2021–2035
Ala-92	21-T06-041	This program includes funding to implement interchange improvements at Clawiter Rd / Whitesell St.	\$40M	2021–2035
Var	21-T11-095	This program includes funding to implement improvements to existing ferry service between the	\$1,480M	2021–2035

Route	RTP ID	Description	Cost*	Project Completion Date*
		San Francisco Ferry Building and Alameda/Oakland, Harbor Bay, Vallejo, Richmond and South San Francisco, including frequency upgrades		
Var	21-T11-101	This program includes funding to implement improvements to the Caltrain/High-Speed Rail Corridor. Improvements include corridor electrification between San Francisco and Tamien station in San Jose and frequency upgrades	\$1,980M	2021–2035
Var	21-T11-102	This program includes funding to implement improvements to the Caltrain/High-Speed Rail Corridor.	\$3,000M	2036–2050
Var	21-T12-116	This program includes funding to implement Express Lanes through HOV Lane conversions on I-80 (Ala, CC), I-280 (SCL), I-680 (CC), I-880 (SCL), US 101 (SCL), SR 4 (CC), SR 84 (Ala), SR 85 (SCL), SR 87 (SCL), and SR 92 (Ala); partial HOV Lane conversions on I-80 (Sol), I-280 (SF), I-680 (CC), and US 101 (SF); freeway lane conversions on I-80 (Sol), I-280 (SCL), I-580 (Ala), I-680 (SCL), and I-880 (Ala); new lanes on I-80 (Sol), I-680 (Ala, CC), I-880 (Ala), and US 101 (SM); new dual lanes with HOV Lane conversions on SR 85 (SCL); and new dual lanes on US 101 (SCL).	—	2025–2050
Var	21-T11-106	This program includes funding to implement improvements to existing BART service, including frequency upgrades	\$5,310M	2021–2035
Var	21-T11-107	This program includes funding to implement improvements to existing Caltrain rail service between San Francisco and San Jose, including frequency upgrades	\$2,840M	2036–2050
SF-80/101	21-T12-123	This program includes funding to implement improvements to existing express bus service along US 101 and I-280	\$240M	2021–2035

* Costs and project construction dates are subject to change.

Notes:

— = not applicable

AC Transit = Alameda–Contra Costa Transit District

Ala = Alameda County

BART = Bay Area Rapid Transit District

CC = Contra Costa County

EA = Expenditure Authorization

HOV = High Occupancy Vehicle

I-80 = Interstate 80

I-280 = Interstate 280

I-580 = Interstate 580

I-680 = Interstate 680

I-880 = Interstate 880

ID = identification number

PBA = Plan Bay Area

RTP = Regional Transportation Plan

SCL = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Sol = Solano County

SR = State Route

US 101 = US Highway 101

Var = various

California State Transportation Improvement Program

The California State Transportation Improvement Program (STIP) is the biennial 5-year plan that the California Transportation Commission adopts for future allocations of certain State transportation funds for State highway improvements, intercity rail, and regional highway, and transit improvements. There are no current or planned STIP projects in the vicinity of the EA 04-2Q740 project limits.

District 4 Bike Plan

The District 4 Bike Plan, the first of its kind in the state, evaluates bicycle needs on and across the Bay Area's State transportation network and identifies infrastructure improvements to enhance bicycle safety and mobility and remove some of the barriers to bicycling in the region. This plan builds on Toward an Active California: State Bicycle and Pedestrian Plan (2017) and is used to guide District 4 and its partners to develop an integrated bicycle network for the Bay Area. Table 4-4 lists the current and planned projects in the District 4 Bike Plan that are in the vicinity of the EA 04-2Q740 project limits.

Table 4-4: Current and Planned Projects in the District 4 Bike Plan That Are in the Vicinity of the EA 04-2Q740 Project Limits

County-Route	Post Mile	Location	Description	Tier/Cost Level*
Ala-880	18.44	W. A St	Minor interchange improvements (signage and striping)–Class II	Top \$
Ala-880	18.03	Winton Ave	Interchange reconstruction (ramps only)–Class II	Top \$\$\$
Ala-880	6.93	Eden Greenway	New separated crossing	Top \$\$\$
Ala-880	14.35	Industrial Pkwy	New separated crossing	Top \$\$\$
Ala-880	15.26	W. Tennyson Rd	Interchange reconstruction only–Class IV	Top \$\$\$
Ala-880	13.15	Whipple Rd	Interchange reconstruction (full reconstruction)–Class IIB	Top \$\$\$
Ala-880	11.87	Alvarado-Niles Rd	Minor interchange improvements (signage and striping)–Class II	Mid \$
Ala-880	9.76	Paseo Padre Pkwy	New separated crossing	Top \$\$\$
SM-101	20.41	San Bruno Ave E.	New separated crossing	Top \$\$\$\$
SM-101	22.03	E. Grand Ave	Minor interchange improvements (signage and striping)–Class IIB	Top \$

SM-101	22.81	Sister Cities Blvd	Minor interchange improvements (signage and striping)–Class IV	Top \$\$
SM-101	25.82	Marsh Rd	Minor interchange improvements (signage and striping)–Class IIB	Top \$

Source: Caltrans District 4 Bike Plan, Web Map : [District 4 Bike Plan Web Map \(arcgis.com\)](http://arcgis.com).

* The tiers and cost levels are defined as follows:

\$ = <\$250K

\$\$ = \$250K–\$1.5M

\$\$\$ = \$1.5M–\$7.0M

\$\$\$\$ = >\$7.0M

Top = Highest priority ranking

Mid = Below highest priority ranking

Notes:

Ala = Alameda County

EA = Expenditure Authorization

SM = San Mateo County

Multiple bicycle improvement recommendations are identified in the District 4 Bicycle Plan including multiple interchange and crossing improvement needs throughout the project area with a particular emphasis on the I-880 and US 101 on- and off-ramp intersections. Some recommendations to consider implementing as part of the project include installing signal loops that detect bicycles and bicycle striping improvements where applicable. Table 4-5 lists the bike improvements to be implemented with the project.

Table 4-5: Bike Improvements to be Implemented with the Project

County-Route	Post Mile	Location	Description
Var	Var	Where on ramps/off ramps are being restriped or repaved or other high priority locations	Install green conflict markings at uncontrolled crossing with bikeway such as Marsh Road (SM-101 PM 25.82) and Alvarado-Niles Road (Ala-880 PM 11.87) (Quantity up to 3 locations)
Var	Var	Signalized on ramps/off ramps	Install signal loops that detect bikes where project will upgrade signals at on/off ramps and there is no existing bicycle detection (Quantity up to 5 locations)

Notes:

Ala = Alameda County

EA = Expenditure Authorization

PM = post mile

SM = San Mateo County

Var = Various

District 4 Pedestrian Plan

The District 4 Pedestrian Plan will guide Caltrans Bay Area investments to support walking and connect people with opportunities, while seeking to reconnect previously divided communities. The Plan also furthers the 2017 State Bicycle and Pedestrian Plan, Toward an Active California, which established statewide policies, strategies and actions to advance active transportation and transit safety, mobility, preservation,

and equity. Table 4-6 lists the current and planned projects in the District 4 Pedestrian Plan that are in the vicinity of the EA 04-2Q740 project limits.

Table 4-6: Current and Planned Projects in the District 4 Pedestrian Plan That Are in the Vicinity of the EA 04-2Q740 Project Limits

County-Route	Post Mile	Location	Description	Tier
SCI-880	10.39	Dixon Landing Rd	Freeway Junction Improvements	Tier 2
SCI-880	7.66	Great Mall Parkway	Freeway Junction Improvements	Tier 2
SCI-880	6.7	Montague Expressway	Freeway Junction Improvements	Tier 2
SCI-880	4.3	Old Bayshore Hwy	Freeway Junction Improvements	Tier 1
Ala-92	5.13	Industrial Blvd	Freeway Junction Improvements	Tier 2
Ala-880	23.6	Davis St	Freeway Junction Improvements	Tier 1
Ala-880	24.76	98th Ave	Freeway Junction Improvements	Tier 1
Ala-880	35.73	Hegenberger Rd	Freeway Junction Improvements	Tier 1
Ala-880	36.82	66th Ave / Zhong Way	Freeway Junction Improvements	Tier 1
SF-80	5.05	4th St	Freeway Junction Improvements	Tier 1
SF-80	4.827	5th St	Freeway Junction Improvements	Tier 1
SF-80	4.46	7th St	Freeway Junction Improvements	Tier 1

Source: Caltrans District 4 Pedestrian Plan

* The tiers are defined as follows:

Tier 2 = Highest priority ranking

Tier 1 = Below highest priority ranking

Notes:

Ala = Alameda County

SCI = Santa Clara County

SF = San Francisco County

Multiple pedestrian improvement recommendations are identified in the District 4 Pedestrian Plan including multiple interchange and crossing improvement needs throughout the project area. Some recommendations to consider implementing as part of the project include installing APS pedestrian push buttons, rectangular rapid flashing beacons (RRFBs) at uncontrolled crossings, leading pedestrian intervals (LPIs) and crosswalk striping improvements where applicable. Table 4-7 lists the pedestrian improvements to be implemented with the project.

Table 4-7: Pedestrian Improvements to be Implemented with the Project

County-Route	Post Mile	Location	Description
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SCI-880	10.39	Dixon Landing Rd SB on-ramp	Install RRFB (Quantity 1)
Ala-880	24.76	98th Ave NB on-ramp	Install RRFB (Quantity 1)
SF-101	2.99	Cesar Chavez St	Install RRFB (Quantity 1)
SM-101	25.82	Marsh Rd SB on-ramp	Install RRFB (Quantity 1)
SM-101	25.82	Marsh Rd NB on-ramp	Install RRFB (Quantity 1)
SF-80	4.46	7th St NB off-ramp	Install RRFB (Quantity 1)
SF-80	4.3	8th St SB off-ramp	Install RRFB (Quantity 1)
Var	Var	Signalized on-ramps/off-ramps	Install LPI at signalized locations where project will upgrade signals at on/off ramps and there is a pedestrian phase (Quantity up to 10 locations)

Notes:

Ala = Alameda County

LPI = Leading Pedestrian Intervals

NB = northbound

RRFB = Rectangular Rapid Flashing Beacons

SB = southbound

SCl = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Var = Various

4C. Traffic

Current and Forecasted Traffic

Table 4-8 lists the on-ramp and connector traffic data for ramp-metering locations on Route 880 and Route 980 in Alameda County within the project limits. Table 4-9 lists the mainline Traffic Index (TI) and Equivalent Single Axle Load (ESAL) information for Route 880 and Route 980 in Alameda County within the project limits. The 2011, 2012, and 2017 traffic count data are derived from the District 4 Office of Highway Operations count database. Future-year projections are calculated by the Office of Advance Planning (project-level forecasting) using traffic growth as determined by the ACTC Travel Demand Model. The ACTC model is based on land use projections from ABAG, which uses a suite of tools and in-house analytic models to develop a range of projections for employment, population, and household growth. MTC and ABAG are the two regional agencies that are primarily responsible for PBA 2050 (October 2021 update).

Table 4-8: On-Ramp and Connector Traffic Data for Ramp-Metering Locations in Alameda County: ADT Information

Location*	Existing Traffic Volumes (2011, 2012, or 2017)			2025 Construction Year Traffic Volumes (ADT)	2045 Design Traffic Volumes (ADT)
	Year	ADT	% Trucks		
Ala-980 WB on-ramp from Brush St/ 11 th St	2012	2,600	7.03	2,800	3,200

Ala-980 WB on-ramp from Brush St/ 17 th St	2012	6,500	7.03	6,800	7,700
Ala-980 WB to Ala-880 SB connector	2017	96,000	7.03	100,800	115,200
Ala-880 SB on-ramp from Maritime St/ 7 th St	2011	8,700	7.03	9,200	10,500
Ala-880 SB on from Adeline St/ 5 th St	2011	5,300	7.03	5,500	6,300

* Table refers to I-880 and I-980 as 880 and 980, respectively, to be consistent with ABAG and MTC sources used to compile the table. Also, it was decided that forecasting data were only needed for the locations with ramp-metering work; ramp metering work is only in Alameda.

Notes:

ADT = Average Daily Traffic

Ala = Alameda County

PM = post mile

SB = southbound

WB = westbound

Table 4-9: On-Ramp and Connector TI and ESAL Information for Ramp-Metering Locations in Alameda County

Location*	Calculated TI for all Lanes		Recommended TI for all Lanes		ESAL	
	20-year	40-year	20-year	40-year	20-year	40-year
Ala-980 WB on-ramp from Brush St/ 11th St	8.5	9.5	8.5	9.5	728,000.0	1,533,000.0
Ala-980 WB on-ramp from Brush St/ 17th St	9.5	10.5	9.5	10.5	1,796,000.0	3,783,000.0
Ala-980 WB to Ala-880 SB connector	13.5	14.5	13.5	14.5	26,630,000.0	56,632,000.0
Ala-880 SB on-ramp from Maritime St/ 7th St	10.0	11.0	10.0	11.0	2,440,000.0	5,132,000.0
Ala-880 SB on-ramp from Adeline St/ 5th St	10.0	11.0	9.5	10.5	1,469,000.0	3,088,000.0

* Table refers to I-880 and I-980 as Ala-880 and Ala-980, respectively, to be consistent with ABAG and MTC sources used to compile the table. Also, it was decided that forecasting data were only needed for the locations with ramp-metering work; ramp metering work is only in Alameda.

Notes:

Ala = Alameda County

ESAL = Equivalent Single Axle Load

SB = southbound

TI = Traffic Index

WB = westbound

Collision Analysis

The most-recent available 3-year collision data (October 1, 2017, to September 30, 2020) were extracted from the Caltrans collision database, the Transportation System Network–Traffic Accident Surveillance and Analysis System (TSN-TASAS) and used to develop Tables 4-10, 4-11, and 4-12.

Collision Analysis for Mainline SCl-237, SCl-880, SF-80, SF-101, and SM-101

Table 4-10 compares the actual TASAS Table B: Selective Collision Rate Calculation results for routes within the project limits in San Francisco, San Mateo, and Santa

Clara Counties with the average collision rates for similar facilities statewide. The actual collision rates on SCI-237, SCI-880, and SM-101 within the project limits are lower than the corresponding average collision rates for similar facilities statewide; however, the actual collision rates on SF-80 and SF-101 within the project limits are higher than the corresponding average collision rates for similar facilities statewide.

Table 4-10: Comparison of Mainline Actual Collision Rates for SCI-237, SCI-880, SF-80, SF-101, and SM-101 with Average Collision Rates for Similar Facilities Statewide (October 1, 2017, to September 30, 2020)

Mainline Segment		Number of Collisions			Collision Rates (col/mvm)					
		Total ¹	F	I	Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
					F	F + I	Total ¹	Fatal	F + I	Total ¹
1	SCI-237–PM 7.9/9.4	194	0	15	0.000	0.21	0.80	0.007	0.39	0.97
2	SCI-880–PM 4.1/10.5	950	3	295	0.002	0.22	0.71	0.003	0.29	0.92
3	SF-80–PM L3.8/R8.86	1921	6	649	0.004	0.43	1.27	0.003	0.27	0.86
4	SF-101–PM 0.0/4.24	1378	5	472	0.005	0.44	1.27	0.004	0.33	1.01
5	SM-101–PM R20.8/26.1	528	4	190	0.003	0.15	0.40	0.004	0.31	0.96

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

PDO = property damage only

PM = post mile(s)

SCI = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Tables 4-11 and 4-12 list the TASAS Selective Record Retrieval (TSAR) Accident Summary for the segments listed in Table 4-10. Table 4-11 shows the types of collisions that took place within the study period, and Table 4-12 shows the primary collision factors that caused those collisions. Most collision types were rear-end-type collisions. Speeding was typically the most-common primary collision factor.

Table 4-11: Types of Collisions for SCI-237, SCI-880, SF-80, SF-101, and SM-101 (October 1, 2017, to September 30, 2020)

Mainline Segment		Types of Collision							
		Head-On	Sideswipe	Rear End	Broadside	Hit Object	Overtake	Auto-Pedestrian	Not Stated
1	SCI-237–PM 7.9/9.4	1 (0.5%)	52 (26.8%)	114 (58.8%)	5 (2.6%)	20 (10.3%)	1 (0.5%)	—	1 (0.5%)
2	SCI-880–PM 4.1/10.5	2 (0.2%)	249 (26.2%)	575 (60.5%)	14 (1.5%)	95 (10.0%)	11 (1.2%)	2 (0.2%)	2 (0.2%)
3	SF-80–L3.8/R8.86	3 (0.2%)	621 (32.3)	1060 (55.2%)	15 (0.8%)	186 (9.7%)	22 (1.1%)	3 (0.2%)	11 (0.6%)

4	SF-101– PM 0.0/4.24	4 (0.3%)	404 (29.3%)	820 (59.5%)	11 (0.8%)	105 (7.6%)	22 (1.6%)	1 (0.1%)	11 (0.8%)	—
5	SM-101– PM R20.8/26.1	1 (0.2%)	164 (31.1%)	249 (47.2%)	8 (1.5%)	82 (15.5%)	14 (2.7%)	2 (0.4%)	8 (1.5%)	—

Percentages may not add to 100.0% because of rounding.

Notes:

— = not applicable

PM = post mile(s)

SCl = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Table 4-12: Primary Collision Factors for SCl-237, SCl-880, SF-80, SF-101, and SM-101 (October 1, 2017, to September 30, 2020)

Mainline Segment		Primary Collision Factors								
		Influence Alcohol	Follow Too Close	Failure to Yield	Improper Turn	Speeding	Other Violations	Improper Driving	Other Than Driver	Unknown
1	SCl-237– PM 7.9/9.4	2 (1%)	3 (1.5%)	—	17 (8.8%)	118 (60.8%)	52 (26.8%)	—	—	2 (1%)
2	SCl-880– PM 4.1/10.5	32 (3.4%)	1 (0.1%)	—	146 (15.4%)	545 (57.4%)	184 (19.4%)	—	21 (2.2%)	21 (2.2%)
3	SF-80– PM L3.8/R8.86	142 (7.4%)	49 (2.6%)	4 (0.2%)	167 (8.7%)	935 (48.7%)	517 (26.9%)	50 (2.6%)	32 (1.7%)	25 (1.3%)
4	SF-101–PM 0.0/4.24	57 (4.1%)	42 (3%)	1 (0.1%)	98 (7.1%)	753 (54.6%)	338 (24.5%)	23 (1.7%)	36 (2.6%)	30 (2.2%)
5	SM-101– PM R20.8/26.1	38 (7.2%)	10 (1.9%)	1 (0.2%)	80 (15.2%)	219 (41.5%)	139 (26.3%)	7 (1.3%)	22 (4.2%)	12 (2.3%)

Percentages may not add to 100.0% because of rounding.

Notes:

— = not applicable

PM = post mile(s)

SCl = Santa Clara County

SF = San Francisco County

SM = San Mateo County

Collision Analysis for Southbound I-880 (PM 16.696/R33.920 and PM R33.920L/R35.470L)

Table 4-13 compares the actual TASAS Table B collision rates for SB I-880 in Alameda County from PM 16.696 to PM R33.920 and from PM R33.920L to PM R35.470L with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-13: Comparison of Actual Collision Rates for SB I-880 from PM 16.696 to PM R33.920 and from PM R33.920L to PM R35.470L with Average Collision Rates for Similar Facilities Statewide (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
Southbound Ala-880 PM 16.696 to PM R33.920	3078	0.005	0.38	1.49	0.003	0.29	0.92
Southbound Ala-880 PM R33.920L to PM R35.470L	60	0.000	0.17	0.85	0.005	0.28	0.83

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

Ala = Alameda County

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

PDO = property damage only

PM = post mile(s)

SB = southbound

Southbound Ala-880 PM 16.696/R33.920:

Analysis of the TASAS Table B records for SB Ala-880 from PM 16.696 to PM R33.920 shows a total of 3078 collisions within the segment for the study period indicated in Table 4-13. The actual fatal collision rate (F) and the actual fatal plus injury (F + I) collision rate are both above the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes property damage only (PDO) collisions, is also above the corresponding average total collision rate for similar facilities statewide.

Detailed analysis per the TASAS Selective Accident Retrieval (TSAR) results generated on August 27, 2021, shows that the types of collisions for the 3078 collisions within the segment of SB Ala-880 from PM 16.696 to PM R33.920 were as follows:

- Rear end: 1832 (59.5%)
- Sideswipe: 825 (26.8%)
- Hit object: 322 (10.5%)
- Broadside: 38 (1.2%)
- Overturn: 30 (1.0%)
- Other: 13 (0.4%)

- Head-on: 10 (0.3%)
- Auto-pedestrian: 8 (0.3%)

The TSAR results also showed that the primary collision factors for the 3078 collisions within the segment of SB Ala-880 from PM 16.696 to PM R33.920 were (in order of frequency):

- Speeding
- Other violations
- Improper turn
- Influence of alcohol
- Follow too close
- Other than driver
- Unknown
- Improper driving
- Failure to yield
- Not stated

Southbound Ala-880 from PM R33.920L to PM R35.470L:

Analysis of the TASAS Table B records for SB Ala-880 from PM R33.920L to PM R35.470L shows a total of 60 collisions within the segment for the study period indicated in Table 4-13. Both the actual fatal collision rate (F) and the actual fatal plus injury (F + I) collision rate are below the corresponding average collision rates for similar facilities statewide. However, the actual total collision rate, which includes PDO collisions, is above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that the types of collisions for the 60 collisions within the segment of SB Ala-880 from PM R33.920L to PM R35.470L were as follows:

- Rear end: 21 (35%)
- Hit object: 20 (33.3%)

- Sideswipe: 18 (30%)
- Other: 1 (1.7%)

The TSAR results also showed that the primary collision factors for the 60 collisions within the segment of SB I-880 from PM R33.920L to PM R35.470L were (in order of frequency):

- Other violations
- Speeding
- Improper turn
- Influence of alcohol
- Other than driver
- Unknown

Collision Analysis for Northbound Ala-880 (PM 16.696/R33.920 and PM R33.920R/R35.579R)

Table 4-14 compares the actual TASAS Table B collision rates for NB Ala-880 from PM 16.696 to PM R33.920 and from PM R33.920R to R35.797R with the corresponding average rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-14: Comparison of Actual Collision Rates for NB Ala-880 from PM 16.696 to PM R33.920 and from PM R33.920R to PM R35.797R with Average Collision Rates for Similar Facilities Statewide (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
Northbound Ala-880 PM 16.696 to PM R33.920	2891	0.006	0.37	1.40	0.003	0.29	0.92
Northbound Ala-880 PM R33.920R to PM R35.797R	108	0.000	0.22	1.30	0.005	0.21	0.62

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

NB = northbound

PDO = property damage only

PM = post mile(s)

Northbound Ala-880 from PM 16.696 to PM R33.920:

Analysis of the TASAS Table B records for NB Ala-880 from PM 16.696 to PM R33.920 shows a total of 2891 collisions within the segment for the study period indicated in Table 4-14. Both the actual fatal collision rate (F) and the fatal plus injury (F + I) collision rate are above the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that types of collisions for the 2891 collisions within the segment of NB Ala-880 from PM 16.696 to PM R33.920 were as follows:

- Rear end: 1579 (54.6%)
- Sideswipe: 846 (29.3%)
- Hit object: 363 (12.6%)
- Broadside: 39 (1.3%)
- Overturn: 26 (0.9%)
- Head-on: 19 (0.7%)

- Other: 14 (0.5%)
- Auto-pedestrian: 5 (0.2%)

Note: Percentages for TSAR results may not add to 100.0% because of rounding.

The TSAR results also showed that the primary collision factors for the 2891 collisions within the segment of NB Ala-880 from PM 16.696 to PM R33.920 were (in order of frequency):

- Speeding
- Other violations
- Improper turn
- Influence of alcohol
- Follow too close
- Other than driver
- Unknown
- Improper driving
- Failure to yield

Northbound Ala-880 from PM R33.920R to PM R35.797R:

Analysis of the TASAS Table B records for NB Ala-880 from PM R33.920R to PM R35.797R shows a total of 108 collisions within the segment for the study period indicated in Table 4-14. The actual fatal collision rate (F) is below the corresponding average collision rate, and the fatal plus injury (F + I) collision rate is above the corresponding average collision rate for similar facilities statewide. The actual total collision rate is also above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that the types of collisions for the 108 collisions within the segment of NB Ala-880 from PM R33.920R to PM R35.797R were as follows:

- Rear end: 45 (41.7%)
- Sideswipe: 40 (37%)
- Hit object: 19 (17.6%)

- Overturn: 2 (1.9%)
- Broadside: 1 (0.9%)
- Other: 1 (0.9%)

The TSAR results also showed that the primary collision factors for the 2891 collisions within the segment of NB Ala-880 from PM 16.696 to PM R33.920 were (in order of frequency):

- Speeding
- Other violations
- Improper turn
- Influence of alcohol
- Other than driver
- Improper driving
- Unknown

Collision Analysis for Southbound Ala-880s from PM 0L to PM 1.463L and Northbound Ala-880 from PM 0R to PM 1.257R

Table 4-15 compares the actual TASAS Table B collision rates for SB Ala-880s in Alameda County from PM 0L to PM 1.463L and from NB Ala-880s from PM 0R to PM 1.257R with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-15: Comparison of Actual Collision Rates for SB I-880s from PM 0L to PM 1.463L and for NB I-880s from PM 0R to PM 1.257R with Average Collision Rates for Similar Facilities Statewide (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
Southbound Ala-880s PM 0L to PM 1.463L	20	0.000	0.02	0.15	0.006	0.29	0.83
Northbound Ala-880s PM 0R to PM 1.257R	138	0.000	0.21	1.13	0.004	0.27	0.82

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

NB = northbound

PDO = property damage only

PM = post mile(s)

SB = southbound

Southbound Ala-880s from PM 0L to PM 1.463L:

Analysis of the TASAS Table B records for SB Ala-880s from PM 0L to PM 1.463L shows a total of 20 collisions within the segment for the study period indicated in Table 4-15. Both the actual fatal collision rate (F) and the fatal plus injury collision rate (F + I) are below the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also below the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that the types of collisions for the 20 collisions within the segment of SB Ala-880s from PM 0L to PM 1.463L were as follows:

- Sideswipe: 7 (35%)
- Rear end: 7 (35%)
- Hit object: 6 (30%)

The TSAR results also showed that the primary collision factors for the 20 collisions within the segment of SB Ala-880s from PM 0L to PM 1.463L were (in order of frequency):

- Other violations
- Improper turn

- Influence of alcohol
- Speeding
- Unknown

Northbound Ala-880s from PM 0R to 1.257R:

Analysis of the TASAS Table B records for NB Ala-880s from PM 0R to PM 1.257R shows a total of 138 collisions within the segment for the indicated study period indicated in Table 4-15. Both the actual fatal collision rate and the fatal plus injury collision rate are below the corresponding average collision rates for similar facilities statewide. However, the actual total collision rate, which includes PDO collisions, is above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on April 5, 2022, shows that the types of collisions for the 138 collisions within the segment of NB Ala-880s from PM 0R to PM 1.257R were as follows:

- Sideswipe: 76 (55.1%)
- Rear end: 47 (34.1%)
- Hit object: 10 (7.2%)
- Overturn: 3 (2.2%)
- Broadside: 2 (1.4%)

The TSAR results also showed that the primary collision factors for the 138 collisions within the segment of NB Ala-880s from PM 0R to PM 1.257R were (in order of frequency):

- Other violations
- Speeding
- Improper turn
- Unknown
- Influence of alcohol
- Improper driving
- Other than driver

Table 4-16 compares the actual TASAS Table B collision rates for SB Ala- 260 in Alameda County from PM 1.201L to PM 1.836L and from PM R1.124R to PM R1.865R with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-16: Comparison of Actual Collision Rates for SB Ala-260 from PM 1.201L to PM 1.836L and for NB Ala-260 from PM R1.124R to PM R1.865R with Average Collision Rates for Similar Facilities Statewide (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
Southbound Ala-260 PM 1.201L to PM 1.836L (Webster Tube)	7	0.000	0.09	0.31	0.006	0.29	0.83
Northbound Ala-260 PM R1.124R to PM R1.865R (Posey Tube)	10	0.000	0.15	0.38	0.006	0.29	0.83

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

NB = northbound

PDO = property damage only

PM = post mile(s)

SB = southbound

Southbound Ala-260 from PM 1.201L to PM 1.836L (Webster Tube):

Analysis of the TASAS Table B records for SB Ala-260 from PM 1.201L to PM 1.836L (Webster Tube) shows a total of 7 collisions within the segment for the study period indicated in Table 4-16. Both the actual fatal collision rate (F) and the actual fatal plus injury collision rate (F + I) are below the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also below the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that the types of collisions for the 7 collisions within the segment of SB Ala-260 from PM 1.201L to PM 1.836L were as follows:

- Sideswipe: 3 (42.9%)
- Rear end: 2 (28.6%)
- Hit object: 2 (28.6%)

The TSAR results also showed that the primary collision factors for the 7 collisions within the segment of SB Ala-260 from PM 1.201L to PM 1.836L were (in order of frequency):

- Improper turn
- Speeding
- Other violations

Northbound Ala-260 from PM R1.124R to PM R1.865R (Posey Tube):

Analysis of the TASAS Table B records for NB Ala-260 from PM R1.124R to PM R1.865R (Posey Tube) shows a total of 10 collisions within the segment for the study period indicated in Table 4-16. Both the actual fatal collision rate (F) and the actual fatal plus injury (F + I) collision rate are below the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also below the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 27, 2021, shows that the types of collisions for the 10 collisions within the segment of NB Ala-60 from PM R1.124R to PM R1.865R were as follows:

- Sideswipe: 6 (60%)
- Rear end: 3 (30%)
- Broadside: 1 (10%)

The TSAR results also showed that the primary collision factors for the 10 collisions within the segment of NB Ala-260 from PM R1.124R to PM R1.865R were (in order of frequency):

- Improper turn
- Speeding
- Influence of alcohol

- Failure to yield
- Other violations

Collision Analysis for Eastbound Ala-92 from PM R2.594 to PM 6.555 and Westbound SR 92 from PM R2.594 to 6.555

Table 4-17 compares the actual TASAS Table B collision rates for eastbound (EB) Ala-92 from PM R2.594 to PM 6.555 and westbound (WB) Ala- 92 from PM R2.594 to PM 6.555 with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019).

Table 4-17: Comparison of Actual Collision Rates for EB Ala-92 from PM R2.594 to PM 6.555 and WB Ala-92 from PM R2.594 to PM 6.555 with Average Collision Rates for Similar Facilities Statewide (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
Eastbound Ala-92 PM R2.594 to PM 6.555	365	0.004	0.37	1.47	0.004	0.28	0.86
Westbound Ala-92 PM R2.594 to PM 6.555	342	0.000	0.41	1.37	0.004	0.28	0.86

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

EB = eastbound

F = fatal collision(s)

I = injury collision(s)

PDO = property damage only

PM = post mile(s)

WB = westbound

Eastbound Ala-92 from PM R2.594 to PM 6.555:

Analysis of the TASAS Table B records for EB Ala-92 from PM R2.594 to PM 6.555 shows a total of 365 collisions within the segment for the study period indicated in Table 4-17. The actual fatal collision rate (F) is the same as the corresponding average rate for similar facilities statewide; however, the actual fatal plus injury (F + I) collision rate is above the corresponding average collision rate for similar facilities statewide. The actual total collision rate is also above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on September 28, 2021, shows that the types of collisions for the 365 collisions within the segment of EB Ala-92 from PM R2.594 to PM 6.555 were as follows:

- Rear end: 208 (57%)
- Hit object: 77 (21.1%)
- Sideswipe: 67 (18.4%)
- Broadside: 6 (1.6%)
- Overturn: 4 (1.1%)
- Other: 2 (.05%)
- Head-on: 1 (0.3%)

The TSAR results also showed that the primary collision factors for the 365 collisions within the segment of EB Ala-92 from PM R2.594 to PM 6.555 were (in order of frequency):

- Speeding
- Improper turn
- Other violations
- Influence of alcohol
- Follow too close
- Other than driver
- Unknown
- Failure to yield

Westbound Ala-92 from PM R2.594 to PM 6.555:

Analysis of the TASAS Table B records for WB Ala-92 from PM R2.594 to PM 6.555 shows a total of 342 collisions within the segment for the study period indicated in Table 4-17. The actual fatal collision rate (F) is below the corresponding average rate for similar facilities statewide; however, the actual fatal plus injury (F + I) collision rate is above the corresponding average collision rate for similar facilities statewide. The actual total collision rate is also above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 25, 2021, shows that the types of collisions for the 342 collisions within the segment of WB Ala-92 from PM R2.594 to PM 6.555 were as follows:

- Rear end: 217 (63.5%)
- Sideswipe: 75 (21.9%)
- Hit object: 35 (10.2%)
- Overturn: 7 (2.0%)
- Broadside: 4 (1.2%)
- Head-on: 3 (0.9%)
- Other: 1 (0.3%)

The TSAR results also showed that the primary collision factors for the 342 collisions within the segment of WB Ala-92 from PM R2.594 to PM 6.555 were (in order of frequency):

- Speeding
- Other violations
- Improper turn
- Influence of alcohol
- Follow too close,
- Other Than Driver, and
- Unknown.

Table 4-18 compares the actual TASAS Table B collision rates for WB Ala-980 on-ramps from Brush at 11th Street at PM 0.418 and at 17th Street at PM 0.625 with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-18: Comparison of Actual Collision Rates for WB Ala-980 On-Ramps from Brush at 11th Street and Brush at 17th Street (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
WB Ala-980 on-ramp from Brush at 11th St. PM 0.418	2	0.000	0.00	0.83	0.003	0.12	0.30
WB Ala-980 on-ramp from Brush at 17th St. PM 0.625	2	0.000	0.00	0.33	0.002	0.23	0.63

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

EB = eastbound

F = fatal collision(s)

I = injury collision(s)

PDO = property damage only

PM = post mile(s)

WB = westbound

Westbound Ala-980 On-Ramp from Brush at 11th Street (PM 0.418):

Analysis of the TASAS Table B records for the WB Ala-980 on-ramp from Brush at 11th Street at PM 0.418 shows a total of 2 collisions within the segment for the study period indicated in Table 4-18. Both the actual fatal collision rate (F) and the actual fatal plus injury collision rate (F + I) are below the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 25, 2021, shows that the types of collisions for the 2 collisions within the segment of WB Ala-980 with the on-ramp from Brush at 11th Street were as follows:

- Sideswipe: 1 (50%)
- Hit object: 1 (50%)

The TSAR results also showed that the primary collision factors for the 2 collisions within the segment of WB Ala-980 with the on-ramp from Brush at 11th Street were (in order of frequency):

- Influence of alcohol
- Other violations

Westbound Ala-980 On-Ramp from Brush at 17th Street (PM 0.625):

Analysis of the TASAS Table B records for the WB Ala-980 on-ramp from Brush at 17th Street at PM 0.625 shows a total of 2 collisions within the segment for the study period indicated in Table 4-18. Both the actual fatal collision rate (F) and the actual fatal plus injury collision rate (F + I) are below the corresponding average collision rates for similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also below the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 25, 2021, shows that the types of collisions for the 2 collisions within the segment of the WB Ala-980 on-ramp from Brush at 17th Street at PM 0.625 were:

- Sideswipe: 1 (50%)
- Rear end: 1 (50%)

The TSAR results also showed that the primary collision factors for the 2 collisions within the segment of WB Ala-980 with the on-ramp from Brush at 17th Street were (in order of frequency):

- Speeding
- Other violations

Collision Analysis for Southbound Ala-880 On-Ramps from Adeline Street/5th Street at PM R32.042 and at 7th Street at PM R33.289

Table 4-19 compares the actual TASAS Table B collision rates for the SB Ala-880 on-ramps from Adeline Street/5th Street at M R32.042 and 7th Street at PM R32.042 with the corresponding average collision rates for similar facilities statewide for the 3-year period January 1, 2017, to December 31, 2019.

Table 4-19: Comparison of Actual Collision Rates for SB Ala-880 On-Ramps from Adeline Street/5th Street at PM R32.042 and 7th Street at PM R33.289 (January 1, 2017, to December 31, 2019)

Segment	Total Number of Collisions ¹	Collision Rates (col/mvm)					
		Actual Collision Rates ²			Average Collision Rates for Similar Facilities Statewide		
		F	F + I	Total ¹	F	F + I	Total ¹
SB Ala-880 on-ramp from Adeline St./5th St. PM R32.042	1	0.000	0.00	0.23	0.001	0.06	0.17
SB Ala-880 on-ramp from 7th St. PM R33.289	2	0.000	0.00	0.27	0.002	0.23	0.63

1. Total includes PDO collisions.

2. **Bold** indicates actual collision rates within the project limits that exceed the average collision rates for similar facilities statewide.

Notes:

col/mvm = collision(s) per million vehicle-miles

F = fatal collision(s)

I = injury collision(s)

PDO = property damage only

PM = post mile(s)

SB = southbound

Southbound Ala-880 On-Ramp from Adeline Street/5th Street (PM R32.042)

Analysis of the TASAS Table B records for the SB Ala-880 on-ramp from Adeline Street/5th Street at PM R32.042 shows a total of 1 collision within the segment for the study period indicated in Table 4-19. Both the actual fatal collision rate (F) and the actual fatal plus injury collision rate (F + I) are below the corresponding average collision rates for similar facilities statewide. However, the actual total collision rate is above the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 25, 2021, shows that the types of collisions for the 2 collisions within the segment of the SB Ala-880 on-ramp from Adeline Street/5th Street at PM R32.042 were as follows:

- Rear end: 1 (100%)

The TSAR results also showed that the primary collision factor for the 1 collision within the segment of the SB Ala-880 on-ramp from Adeline Street/5th Street at PM R32.042 was:

- Speeding

Southbound Ala-880 On-Ramp from 7th Street (PM R33.289):

Analysis of the TASAS Table B records for the SB Ala-880 on-ramp from 7th Street at PM R33.289 shows a total of 2 collisions within the segment for the study period indicated in Table 4-19. Both the actual fatal collision rate (F) and the actual fatal plus injury collision rate are below the corresponding average collision rates for

similar facilities statewide. The actual total collision rate, which includes PDO collisions, is also below the average total collision rate for similar facilities statewide.

Detailed analysis per the TSAR results generated on August 25, 2021, shows that the types of collisions for the 2 collisions within the segment of the SB Ala-880 on-ramp from 7th Street at PM R33.289 were as follows:

- Hit object: 1 (50%)
- Overturn: 1 (50%)

The TSAR results also showed that the primary collision factors for the 2 collisions within the segment of the SB Ala-880 on-ramp from 7th Street at PM R33.289 were:

- Improper turn
- Speeding

TASAS Table C Analysis

The segments listed in this section were flagged in TASAS Table C in 2021. Table C identifies high crash frequency spot locations with either Type “A” (ALL) or Type “W” (WET) collisions where four or more significant crashes occurred within a 12-, 6-, or 3-month period. TASAS Table C reports were generated in February 2021 for the most recent 3-year period (July 1, 2017, to June 30, 2020). Four Type A traffic investigations were required for the four segments of SB I-880 referenced below, with no improvements recommended for any of the segments. Six Type A traffic investigations were required for the six segments of NB I-880 referenced below, with no improvements recommended for any of them. Two Type A traffic investigations were required for the two segments of WB SR 92 referenced above, with no improvement recommended for either. Two Type A traffic investigations were required for the two segments of EB SR 92 referenced above, with no improvement recommended for either one. Four Type W traffic investigations were required for the four segments of NB I-880 referenced above, with no improvement recommended for three locations, and an improvement recommendation for NB I-880 PM R31.957 to R32.357 as follows: Requested Maintenance to check the drainage inlets at this segment.

The following data were obtained from TASAS Table C Reports:

- Table C – Type A (ALL) Crashes
 - I-880 Ala PM 16.523 to 16.723 South (Traffic Investigation Report [TIR] Log# HA201-0527A): No Improvement Recommended
 - I-880 Ala PM 16.837 880/SEG NB On from EB RTE 92 (TIR Log# HA201-0545A): No Improvement Recommended

- I-880 Ala PM 23.700 to 23.900 North (TIR Log# Y211-0255A): No Improvement Recommended
- I-880 Ala PM 24.280 to 24.480 North (TIR Log# Y211-0256A): No Improvement Recommended
- I-880 Ala PM 28.106 to 28.306 South (TIR Log# Y211-0257A): No Improvement Recommended
- I-880 Ala PM 29.806 to 30.006 South (TIR Log# Y211-0258A): No Improvement Recommended
- I-880 Ala PM 30.706 to 30.906 North (TIR Log# Y211-0259A): No Improvement Recommended
- I-880 Ala PM R34.881 to R35.081 North (TIR Log# Y211-0263A): No Improvement Recommended
- I-880 Ala PM R35.341 to R35.741 North (TIR Log# Y211-0265A): No Improvement Recommended
- I-880 Ala PM R35.253 to R35.453 South (TIR Log# Y211-0264A): No Improvement Recommended
- SR-092 Ala PM R2.875 to R3.075 West (TIR Log# Y211-0142A): No Improvement Recommended
- SR-092 Ala PM R3.451 to R3.615 West (TIR Log# Y211-0143A): No Improvement Recommended
- SR-092 Ala PM R5.435 to R5.635 East (TIR Log# Y211-0144A): No Improvement Recommended
- SR-092 Ala PM R6.206 092/SEG EB Off to 880/92 (TIR Log# Y211-0141A): No Improvement Recommended
- Table C – Type W (WET) Crashes
 - I-880 Ala PM 16.523 to 16.723 South (TIR Log# HA201-0729W): No Improvement Recommended
 - I-880 Ala PM 23.137 to 23.337 North (TIR Log# Y211-0297W): No Improvement Recommended
 - I-880 Ala PM 23.500 to 23.700 North (TIR Log# HA201-0735W): No Improvement Recommended

- I-880 Ala PM R31.957 to R32.357 North (TIR Log# HA201-0744W):
Improvement Recommended: *Requested Maintenance to check the drainage inlets at this segment.*

Although some segments indicate higher actual collision rates than the average, there were no recommendations for safety improvement due to the nature of this project.

5. ALTERNATIVES

5A. Viable Alternatives

The project had two viable alternatives: The Build Alternative and the No-Build Alternative.

This section discusses the Build Alternative.

Proposed Engineering Features

The Build Alternative consists of installing Transportation Management System elements, which include fiber optic systems (trunk line), ramp meters, CCTVs, TMSs, VDSs, a CMS, and MVPs (see Attachment B for the preliminary layouts). Details are provided below.

1. Fiber optic systems (trunk line): 43.6 miles (mi)
 - a. Ala-880–PM 23.1/26.1 (3.0 mi)
 - b. Ala-880–PM 26.1/R35.4R (9.3 mi)
 - c. Ala-880s–PM 0R/1.257R (1.3 mi)
 - d. Ala-880 to the Transportation Management Center in the District Office, Posey Webster Tube Portal Building, and BART via Oakland city streets (1.5 mi)
 - e. SF-80–PM L3.8/R8.86 (5.1 mi)
 - f. SF-101–PM 0/4.24 (4.2 mi)
 - g. SM-101–PM 20.8/26.1 (5.3 mi)
 - h. Ala-92–PM R2.6/6.5; Ala-880–PM 16.7/17.0 (3.9 mi, 0.3 mi)
 - i. SCl-237–PM 7.9/9.4 (existing City of San Jose fiber to be connected via lateral to trunk line at PM 7.95) (1.5 mi)
 - j. SCl-880–PM 4.1/8.7 (4.6 mi)
 - k. SCl-880–PM 8.7/10.5 (1.8 mi)
 - l. Ala-80–PM 0/1.2 (1.2 mi)
 - m. Ala-80–PM 1.2/1.8 (0.6 mi)

A fiber optic trunk line is composed of four innerducts housed in a 4-inch or 5-inch diameter conduit with 288-fiber cable installed in one of the innerducts. Elements 1a, 1b, 1f, 1g, 1h, 1i, 1j, and 1k will have laterals connecting from the trunk line to cabinets at on- and off-ramps and cabinets for each interchange. Spacing for pull boxes is usually 1000 feet.

Elements 1a, 1j, 1l, and 1m will have fiber optic cables pulled and installed in an innerduct of an existing conduit. Elements 1b, 1f, 1g, 1h, 1i, and 1k will have the trunk lines installed 3 feet deep in a 12-inch wide trench off the pavement in a dirt area that will be backfilled with slurry cement. Elements 1c and 1e will have the trunk lines attached to the side of the structure. Element 1d will have the trunk lines installed in a 3-foot deep minimum trench in the pavement that will be backfilled with slurry cement and covered with a typical section closely matching the existing pavement.

2. Ramp meters: 5 Locations

- a. Ala-980–Brush St/11th St on-ramp to WB 980 (new)
- b. Ala-980–West St/17th St on-ramp to WB 980 (new)
- c. Ala-880–WB 980 to SB 880 connector (new)
- d. Ala-880–Maritime St/7th St on-ramp to SB 880 (repair/replace)
- e. Ala-880–Adeline St/5th St on-ramp to SB 880 (repair/replace)

Elements 2a and 2b are new ramp-metering systems where the on-ramp will be restriped to one general purpose lane and one HOV Lane. Element 2c is a new ramp-metering system. Elements 2d and 2e are existing ramp-metering systems that will be repaired or replaced.

For new ramp meter installations, individual ramp meter detector loops will be installed within the top 12 inches of the pavement for the lanes of each off-ramp; a combination of advanced warning signs with flashing beacons, “Meter On” signals, and traffic signals at the limit lines will be installed with 2 foot–6-inch diameter piles to a depth of 6 feet–6 inches. Element 2e will also have a Meter On signal installed.

3. Closed-circuit televisions: 45 Locations

- a. Ala-880–PM 23.21 (NB)
- b. Ala-880–PM 30.21 (NB)
- c. SF-80–PM 5.8/7.85 (EB SFOBB) lower deck, 17 locations with new pan-tilt-zoom CCTVs)
- d. SF-80–PM 5.49/7.85 (WB SFOBB upper deck, 8 locations with new pan-tilt-zoom CCTVs)
- e. SF-80–PM 5.65/7.44 (WB SFOBB upper deck, 8 locations with replace pan-tilt-zoom CCTVs)
- f. SF-80–PM 6.09/7.44 (WB SFOBB upper deck, 10 locations with new fixed CCTVs)
- g. Ala-92–PM R6.2 (existing CCTVs to be connected via lateral to trunk line)
- h. SCl-237–PM R9.0L (existing CCTVs to be connected via lateral to trunk line)
- i. SCl-880–PM 8.45 (existing CCTVs to be connected via lateral to trunk line)

Elements 3a and 3b are new CCTVs that will be installed in the shoulder area. The diameter for the cast-in-drilled-hole (CIDH) piles will be 2 feet–6 inches and the

depth will be 8 feet–6 inches for these two locations. Subsurface geotechnical testing may be conducted during the Design phase to determine additional design requirements for the CIDH piles. Elements 3c, 3d, 3e, and 3f are new and replacement CCTVs that will be installed on the upper deck (secured on the tower) and lower deck (secured on the cross-steel members) of the west span of the SFOBB.

4. Traffic monitoring stations: 11 Locations

- a. Ala-880–PM 26.06 (NB, mainline and off-ramp)
- b. Ala-880–PM 26.42 (NB, mainline)
- c. Ala-880–PM 27.13 (NB, mainline)
- d. Ala-880–PM 29.60 (NB, mainline)
- e. Ala-880–PM 30.00 (NB, mainline)
- f. Ala-880–PM 30.37 (NB, mainline)
- g. Ala-880–PM 25.92 (SB, mainline)
- h. Ala-880–PM 27.13 (SB, mainline)
- i. Ala-880–PM 29.60 (SB, mainline)
- j. Ala-880–PM 30.00 (SB, mainline)
- k. Ala-880–PM 30.37 (SB, mainline)

Individual TMS detector loops will be installed in the top 12 inches of pavement for the lanes of each mainline location and the off-ramp for element 4a.

5. Vehicle detection stations: 22 Locations

- a. SF-80–PM 5.8/7.64 (EB SFOBB lower deck, 9 locations)
- b. SF-80–PM 5.40/8.07 (WB SFOBB upper deck, 13 locations)

In-pavement VDS units will be installed or replace existing units on the west span of the SFOBB, which might also include some sort of receiver attached to the bridge structure.

6. Changeable message sign: 1 Location

- a. SF – 80 – PM 6.75 (WB SFOBB Upper Deck, Replace)

The upper deck CMS will be replaced with a Model 500 or Model 700.

7. Maintenance vehicle pullouts: 2 Locations

- a. Ala-980–Brush St/11th St on-ramp to WB 980
- b. Ala-980–West St/17th St on-ramp to WB 980

MVPs are 85 feet long and 12 feet wide with 2 feet backing and have a typical section depth of 9 to 12 inches. Element 7a will be built on the left side of the on-ramp, halfway between the start of the ramp and the limit line. Element 7b will be built on adjacent Route 980 beyond its shoulder, right before the limit line of the on-ramp.

Nonstandard Design Features

The project will be designed in accordance with the standards in the seventh edition of the Highway Design Manual (HDM), dated July 1, 2020. There are no new nonstandard design features proposed for the project.

Tables 5-1 and 5-2 list three proposed ramp-metering locations that have nonstandard shoulder widths. Tables 5-3 through 5-7 list two proposed ramp-metering locations that have nonstandard auxiliary lane length, lane drop taper lengths, convergence taper length, acceleration lane length, and merging length. At these ramp-metering locations, there are two proposed MVPs and two California Highway Patrol (CHP) pullouts. All side slopes associated with these MVPs will be constructed as per HDM Index 304.1 with 4:1 or flatter slopes. Further evaluation will be conducted during the PS&E (design) phase.

Upgrading existing nonstandard connector shoulder width, ramp shoulder widths, auxiliary lane length, lane drop taper lengths, convergence taper length, acceleration lane length, and merging length are beyond the purpose, need, and scope of the project. The Design Standard Decision Document (DSDD) documenting these nonstandard features was approved on May 24, 2023.

Table 5-1: Existing Nonstandard Features to Be Maintained: Connector Shoulder Width, Freeway-to-freeway Connections – Shoulder Width – 3-Lane (Boldface Standard)

County-Route- PM	Location	Paved Shoulder Width (Left) (ft)			Paved Shoulder Width (Right) (ft)		
		Existing	Proposed	Standard	Existing	Proposed	Standard
Ala-980-PM 0.3	WB 980 to SB 880 connector	5 - 10	5 - 10	10	5 - 10	5 - 10	10

Notes:
— = not applicable
Ala = Alameda County

PM = post mile(s)
SB = southbound
WB = westbound

Table 5-2: Existing Nonstandard Features to Be Maintained: Ramp Shoulder Widths (Boldface Standard)

County-Route- PM	Location	Paved Shoulder Width (Left) (ft)			Paved Shoulder Width (Right) (ft)		
		Existing	Proposed	Standard	Existing	Proposed	Standard
Ala-980-PM 0.5	Brush St / 11th St on- ramp to WB 980	4	4	4	5 - 10	5 - 10	8
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	4	4	4	4	4	8

Notes:

— = not applicable

Ala = Alameda County

PM = post mile(s)

WB = westbound

Table 5-3: Existing Nonstandard Features to Be Maintained: Metered Entrance Ramps (1 General Purpose (GP) or 1 GP + 1 HOV Preferential Lane) Auxiliary Lane (Underlined Standard)

County-Route- PM	Location	Auxiliary Lane (ft)		
		Existing	Proposed	Standard
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	0	0	300

Notes:

Ala = Alameda County

PM = post mile(s)

WB = westbound

Table 5-4: Existing Nonstandard Features to Be Maintained: Lane Drop Taper Lengths (Underlined Standard)

County-Route- PM	Location	Lane Drop Taper (ft)		
		Existing	Proposed	Standard
Ala-980-PM 0.5	Brush St / 11th St on- ramp to WB 980	270	270	600
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	330	330	600

Notes:

Ala = Alameda County

PM = post mile(s)

WB = westbound

Table 5-5: Existing Nonstandard Features to Be Maintained: Convergence Taper Length (Underlined Standard)

County-Route- PM	Location	Convergence Taper (ft)		
		Existing	Proposed	Standard
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	100	100	300

Notes:

Ala = Alameda County

PM = post mile(s)

WB = westbound

Table 5-6: Existing Nonstandard Features to Be Maintained: Acceleration Lane Length (Underlined Standard)

County-Route-PM	Location	Acceleration Lane (ft)		
		Existing	Proposed	Standard
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	315	315	467.1'

Notes:

Ala = Alameda County

PM = post mile(s)

WB = westbound

Table 5-7: Existing Nonstandard Features to Be Maintained: Merging Length (Underlined Standard)

County-Route-PM	Location	Merging Length (ft)		
		Existing	Proposed	Standard
Ala-980-PM 0.8	West St / 17th St on-ramp to WB 980	430	430	1200

Notes:

Ala = Alameda County

PM = post mile(s)

WB = westbound

There may exist other nonstandard features within the project limits, however, since this project is only installing Transportation Management System elements to improve traffic congestion, reliable geometric design information is not available to identify each of the existing nonstandard features. The DSDD focuses on the locations where non-standard features were introduced by the ramp meter installations at Ala-980–Brush St/11th St on-ramp to WB 980, Ala-980–West St/17th St on-ramp to WB 980, and Ala-880–WB 980 to SB 880 connector. In addition, the project is not proposing to alter roadway geometric design features or introduce new nonstandard design features. Thus, all the roadway geometric design features within the project limits will be perpetuated on this project.

Ramp Metering

This project will install new ramp-metering systems and repair existing ramp-metering systems as follows:

1. Ala–Brush St / 11th St on-ramp to WB I-980 (new)
 - a. New ramp-metering system
 - i. Install a mast arm standard 70 feet downstream of meter line
 - b. Re-stripe on-ramp to one General Purpose (GP) Lane and one HOV Lane
 - c. Construct MVP
2. Ala–West St / 17th St on-ramp to WB I-980 (new)
 - a. New ramp-metering system

- i. Install a mast arm standard 70 feet downstream of meter line
 - 1. Revise to two 1B standards at the limit line if sight distance is an issue for the mast arm
 - b. Re-stripe on-ramp to one GP Lane and one HOV Lane
 - c. Construct MVP
- 3. Ala–WB I-980 to SB I-880 connector (new)
 - a. New ramp-metering system
- 4. Ala–Maritime St / 7th St on-ramp to SB I-880 (repair/replace)
 - a. Repair or replace existing ramp-metering system
- 5. Ala–Adeline St / 5th St on-ramp to SB I-880 (repair/replace)
 - a. Repair or replace existing ramp-metering system

See Attachment C for preliminary ramp-metering layouts.

California Highway Patrol Enforcement Areas

This project will install new CHP pullouts. The exact positions of the CHP pullouts on the on-ramps will be determined during the design phase. The on-ramps requiring pullouts are as follows:

- 1. Ala–Brush St / 11th St on-ramp to WB I-980
 - a. Construct CHP pullout
- 2. Ala–West St / 17th St on-ramp to WB I-980
 - a. Construct CHP pullout

Highway Planting and Irrigation

The installation of the Transportation Management System elements, fiber optic systems, MVPs, and CHP pullouts will result in minor to moderate regrading and vegetation removal. Removal of trees and other vegetation will be avoided to the extent feasible, and vegetation outside of the clearing and grubbing limits and the designated staging areas will be protected. The replacement planting will maintain the visual quality of the highway corridor and restore visual screening from the highway. The replacement planting will have a 1-year plant establishment period. If protection is not possible, considerations will be made to reroute or relocate the elements.

Caltrans policy is to replace highway planting and irrigation that is damaged or removed by State highway construction activities. The project will replace the removed or damaged planting and irrigation systems.

Erosion Control

Permanent erosion control measures will be implemented for the project to stabilize any disturbed soil areas. These control measures may include use of hydroseed,

hydromulch, fiber rolls, or erosion control netting. Detailed erosion control plans and estimates will be developed during the PS&E phase. In accordance with Caltrans requirements, permanent erosion control measures will ensure that the disturbed soil areas do not pose more risk of sediment discharge after construction than they did before construction.

Bicycle and Pedestrian Access and Dedicated Facilities

The project does not propose to construct any nonmotorized facilities. However, efforts will be made to ensure that no permanent changes will negatively affect existing nonmotorized access, connectivity, or comfort. During construction, funds will be allocated for notification measures to inform pedestrians and bicyclists of potential impacts, detours, and/or road closures.

Americans with Disabilities Act Compliance

The project will not affect Americans with Disabilities Act of 1990 (ADA) features, therefore, will not require the upgrading of components (such as curb ramps or sidewalks) unless those specific components are disturbed. No such components will be disturbed for the project.

Cost Estimate

The construction and right of way costs for the project have been estimated. These costs are summarized in Table 5-3. A detailed Preliminary Cost Estimate is provided as Attachment K.

Table 5-8: Preliminary Project Cost Estimate Summary: Build Alternative (2022)

Item	Estimated Cost
Roadway items	\$85,203,000
Structure items	\$0
Subtotal construction	\$85,203,000
Right of way (escalated value)	\$319,000
Total project capital outlay cost:	\$85,522,000

5B. Rejected Alternatives

The No-Build Alternative would not accomplish the project purpose or meet the project need. Therefore, the No-Build Alternative was rejected.

6. CONSIDERATIONS REQUIRING DISCUSSION

6A. Hazardous Waste

The project will include roadway excavation at various locations. Regulated levels of aerially deposited lead (ADL) and other Title 22 California Code of Regulations metals are likely present in the soil in the project area due to the presence of anthropogenic sources. Some of the components of the proposed work that require excavation may require subsurface investigation to characterize soil and groundwater contamination. However, soil testing may not be required in all locations, as background data may be available as to the presence of contaminants of concern within the project limits.

The trenching operations for the installation of the fiber optic systems will create displaced volumes of soil that are minimal, thus it can remain on-site and be spread uniformly in the immediate area and eliminating the need for testing and off-site disposal. Other activities that will create surplus excavated materials that may require off-site disposal include MVPs, CHP pullouts, and CCTVs that have CIDH piles. These soils will need to be tested and characterized for various concerns, including ADL and groundwater. A detailed site investigation for these locations will be conducted during the project Design phase. A site investigation report will be prepared along with the applicable specifications. The estimated cost of lead compliance plan is \$5,000.

6B. Value Analysis

Caltrans has an established Value Analysis (VA) program that has adopted the principles and practices of value engineering to maintain compliance with federal law. Caltrans uses VA to continually improve the quality and return on the State's investment in infrastructure, foster innovation, and minimize the life-cycle costs of transportation projects.

A VA study is required for all projects on the National Highway System utilizing federal funds with a total project cost (right of way, construction, and support) of \$50 million or more.

This project meets the federal requirements for a VA study.

The VA study for this project was conducted from May 31 to June 2, 2022. Six VA alternatives were developed for improvement of the project and three were selected.

The accepted three VA Alternatives are to:

- Incentivize the Contractor to finish 5 months early vs. 22 months baseline construction time
- Split the project between the different freeway corridor segments with different contractors

- Reduce the permanent BMP cost by \$700,000 to better reflect proposed project features

These alternatives, along with their potential cost savings (between \$0 and \$1,110,000), will be considered by the project development team in the design phase.

6C. Resource Conservation

The project is not anticipated to result in salvageable or reusable items. During the PS&E phase, resource conservation will be revisited and applied as deemed appropriate.

6D. Right of Way Issues

General

A Right of Way Data Sheet has been prepared based on the scope of work described and on maps provided by Design. Estimated cost information is contained in the Right of Way Data sheet in Attachment D of this report. Various permits will be required from the City of Oakland to install 1.5 miles of fiber optic systems in the city streets to connect the main fiber trunk line on Route 880 to the Transportation Management Center in the District 4 office (in Oakland), Posey-Webster Tube Portal Building (on the Oakland side), and BART (telecommunications facility). These permits include a Utility Excavation Permit, an Off Site Infrastructure (PX) Permit, and an Obstruction Permit. See Attachment E for the proposed alignment (Option #1) of the fiber optic systems in the City of Oakland.

Railroad Involvement

There is railroad involvement in the project. There are 19 locations where the fiber optic trunk lines will be attached to the side of or within structures that span or run parallel to railroads. Sometimes fiber optic trunk lines are installed on the roadway below and railroads cross overhead. Right of Way Agreements with various railroad companies will be developed during the PS&E phase to coordinate the installations of the fiber optic trunk lines within the railroad rights of way corridors. Refer to Attachment D for the Right of Way Data Sheet for the anticipated railroad costs (\$112,000 phase 4 cost and \$118,540 phase 9 cost). Table 6-1 lists the locations with railroad involvement.

Table 6-1: Locations with Railroad Involvement

Location	Details of Railroad Involvement
Ala-92-PM R4.91	UPRR crossing underneath bridge structure
SF-80-PM 5.9L	Muni Embarcadero light-rail crossing underneath bridge structure
SF-101-PM 0.56	Muni 3rd St light-rail crossing above
SM-101-PM 21.8	UPRR crossing underneath bridge structure

SM-101–PM 21.92	UPRR and Caltrain crossing underneath bridge structures
SM-101–PM 23.66	UPRR and Caltrain crossing underneath bridge structures
Ala-880–PM 24.3	UPRR crossing underneath bridge structure
Ala-880–PM 25.55	BART (Coliseum-Oakland International Airport Line) crossing above
Ala-880–PM 27.9	UPRR running parallel with freeway (0.1 mile)
Ala-880–PM 29.3/30.6	UPRR running parallel with freeway (1.3 miles)
Ala-880–PM 30.6	UPRR crossing underneath bridge structure
Ala-880–PM 31.7/32.4	BART running parallel with freeway (0.7 miles)
Ala-880–PM 32.45	BART crossing underneath bridge structure
Ala-880–PM 32.55	Amtrak crossing underneath bridge structure
Ala-880–PM 32.7/35.0	Amtrak, Oakland Terminal Railway, and Union Pacific / BNSF running parallel with freeway (2.3 miles)
Ala-880–PM 35.0	Amtrak and UPRR crossing underneath bridge structure
SCI-880–PM 4.3	UPRR crossing underneath bridge structure
SCI-880–PM 7.7	VTa light-rail crossing above
Ala-880s–PM 0.3L/0.0L	Crosses over and parallel with Oakland Terminal Railway and Union Pacific / BNSF

Notes:

Ala = Alameda County

BART = Bay Area Rapid Transit District

BNSF = BNSF Railway

Muni = Municipal Railway

PM = post mile(s)

SCI = Santa Clara County

SF = San Francisco County

SM = San Mateo County

UPRR = Union Pacific Railroad

VTA = Santa Clara Valley Transportation Authority

Utilities

At this time, no utility conflicts have been identified, but utility verification will be conducted during the PS&E phase. However, based on preliminary communications with the Utility Engineering Workgroup, it is estimated that approximately 400 potholes will be requested during the PS&E phase (150 potholes on the freeways and 250 potholes in the City of Oakland) for an estimated cost of \$200,000 (see Attachment D for the Right of Way Data Sheet). The installation of the fiber optic systems and various Transportation Management System elements are flexible enough where efforts can be made to avoid conflicts and/or protect utilities in place. No utility relocations are anticipated.

6E. Environmental Compliance

The project is Categorically Exempt under Class 14 of the State California Environmental Quality Act (CEQA) Guidelines and is Categorically Excluded under the National Environmental Policy Act (NEPA). The Categorical Exemption / Categorical Exclusion Determination Form was approved on July 18, 2022, and is provided as Attachment F.

On January 7, 2022, the decision was made to downscope the environmental document from an Initial Study–Mitigated Negative Declaration / Categorical Exclusion to a Categorical Exemption / Categorical Exclusion. The Office of Biological Sciences and Permits worked with the PDT to map the optimal fiber optic systems alignment, along with the alignment of the other Transportation Management System elements (see Attachment B). General avoidance and various minimization efforts helped to reduce the potential effects on biological resources. Minimization efforts will include pre-construction nesting bird surveys, ramping/covering of open excavations, and use of Caltrans standard Best Management Practices (BMPs).

Visual

The visual changes resulting from the new installation or replacement of VDSs, CCTVs, TMSs, CMSs, MVPs, ramp meters, and fiber optic systems will generally be compatible with the character of the project corridors, as other poles and structures are present nearby. Visual quality will not be altered, and the added or replaced features will go largely unnoticed by viewers.

Water Quality

The project will have a soil disturbance of approximately 36 acres. To comply with the conditions of the Construction General Permit (National Pollutant Discharge Elimination System [NPDES] No. CAS000002) and the Caltrans NPDES Permit (NPDES No. CAS000003) and address the temporary water quality impacts resulting from the construction activities for the project, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented during construction. The SWPPP will identify the temporary construction site BMPs to be implemented to address the temporary water quality impacts resulting from the construction activities for the project. The temporary construction site BMPs that will be considered for the project based on the project construction activities and potential water quality issues will include the consideration of the following:

- Temporary Soil Stabilization Control and Wind Erosion Control
- Temporary Sediment Control
- Tracking Control
- Temporary Concrete Washout
- Job Site Management

Permanent BMPs will include trash capture requirements, which will be designed during the PS&E phase.

A Stormwater Data Report has been prepared for the project (see Attachment G).

6F. Air Quality Conformity

The project is exempt from the requirement to determine air quality conformity per Title 40 Code of Federal regulations (CFR) Section 93.126 (Table 2, Exempt projects: under traffic control devices and operating assistance other than signalization).

6G. Title VI Considerations

Under Title VI of the Civil Rights Act of 1964, the Department ensures that

“No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.”

Related federal statutes and State law further these protections to include sex, disability, religion, sexual orientation, and age.

Caltrans recognizes its leadership role and unique responsibility in State government to eliminate transportation barriers that have divided communities and amplified racial inequities. Caltrans is committed to provide more equitable transportation for all Californians by creating more transparent, inclusive, and ongoing consultation and collaboration processes and engaging with the communities most impacted by structural racism in transportation decision-making, policies, processes, planning, design, and construction. Caltrans is also committed to increase pathways to opportunity for minority-owned and disadvantaged business enterprises and for individuals who face systemic barriers to employment. The goal is to create a more resilient transportation system that distributes the benefits and burdens of the system more equitably to the current and future generations of Californians.

The project is not anticipated to have disproportional impacts on low-income, minority, or low-mobility groups.

6H. Noise Abatement Decision Report

The project does not qualify as either a Type I or a Type II project under 23 CFR 772. Therefore, noise abatement need not be considered, and a noise study report is not required.

Standard Specifications Section 14-8.02, Noise Control, states the following: “Control and monitor noise resulting from work activities. Do not exceed 86 dBA L_{max} at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.”

6I. Life-Cycle Cost Analysis

A Life-Cycle Cost Analysis is not required for the project because no applicable pavement work will be done on the State Highway System.

6J. Reversible Lanes

This project does not qualify as a capacity-increasing or a major street or highway realignment project, and reversible lanes will not be considered.

7. OTHER CONSIDERATIONS AS APPROPRIATE

Public Hearing Process

A public hearing is not required for the project, as the Environmental Document is a Categorical Exemption under CEQA and a Categorical Exclusion under NEPA. Once the PR is approved, a Notice of Exemption (NOE) will be filed with the State Clearinghouse. The NOE will serve as public notice that the project is exempt from CEQA.

Route Matters

The project does not involve freeway agreements, new connections, route adoptions, or relinquishments, so route matters are not applicable.

Permits

Various permits (Utility Excavation Permit, Off Site Infrastructure (PX) Permit, Obstruction Permit) will be required from the City of Oakland to install 1.5 miles of fiber optic systems in the city streets to connect the main fiber trunkline on Route 880 to the Transportation Management Center in the District office (in Oakland), the Posey-Webster Tube Portal Building (on the Oakland side), and BART.

Cooperative Agreements

On July 19, 2021, a cooperative agreement was signed between the State and MTC. MTC agreed to provide \$1,740,000 in support funding for the State to include additional 12 miles of fiber optic systems in this project, in Alameda and Santa Clara Counties. See Attachment H for the signed Cooperative Agreement and Cooperative Agreement Report. The State is the sponsor and implementing agency for the project. MTC is a funding party contributing a fixed amount toward the project and the State is responsible for completing all work for the project.

MTC will provide an additional \$7,500,000 for construction capital and construction support through a separate cooperative agreement by June 2023. A draft Request for Cooperative Agreement (RCA) Form for the additional \$7,500,000 has been attached to the end of Attachment H.

Other Agreements

The project will not require any other agreements, including interagency or maintenance agreements.

Report on Feasibility of Providing Access to Navigable Rivers

The project does not involve any new bridge construction; thus, this report is not applicable.

Public Boat Ramps

The project does not involve any new bridge construction; thus, public boat ramps are not applicable.

Transportation Management Plan

A detailed TMP will be developed for the project during the PS&E phase. The project will require lane closures, but no full closures are anticipated. Thus, no detours will be needed. The lowest-level TMP (a blanket TMP) will be developed because the anticipated impact of the highway work on the traveling public will be low.

The TMP will include various strategies such as providing public information, using portable CMSs, implementing a Construction Zone Enhanced Enforcement Program (COZEEP), and maintain traffic to improve mobility and safety for the traveling public and highway workers.

For more details, refer to the Transportation Management Plan Data Sheet (see Attachment I).

Stage Construction

Project staging will consist of Standard Temporary Traffic Control Systems plans that will involve lane, shoulder, and ramp closures during nonpeak hours. Appropriate temporary barriers and temporary crash cushions will be installed for the construction of the MVPs and the CHP pullouts.

A Positive Work Zone Protection (PWP) Determination (CEM-1302) was completed for the project. After completing the Work Zone Engineering Risk Analysis, a total score of 35 was assigned. The action to be taken for a score between 20 and 35 is to use standard temporary traffic control along with mitigation measures and a PWP where possible. Mitigation measures include work zone speed limit reduction, buffer lanes, COZEEP, TMP, and portable CMSs. The PWP that will be used on the project is appropriate temporary barriers such as steel barriers.

Accommodation of Oversize Loads

The project will not result in any additional temporary or permanent restrictions on the movement of oversize loads.

Graffiti Control

The project is in counties that have been identified as graffiti prone. Applicable graffiti and vandalism control measures will be identified during the PS&E phase.

Asset Management

Director’s Policy 35 (DP-35) calls for maximizing the effectiveness of transportation investments through performance-driven asset management in conformance with Title 23 of the Code of Federal Regulations (CFR) Part 515 and Section 14526 of the California Government Code. Per DP-35, Caltrans is required to determine the most effective way to apply its available resources to benefit the condition and performance of the State Highway System and its assets. This requirement is achieved by a robust Asset Management program and is implemented through the various Asset Management plans, including the State Highway System Management Plan and the District Performance Plans.

The project has been initiated, developed, and programmed in alignment with the Caltrans Asset Management plans. In the PA&ED phase, efforts have been made to meet and surpass the performance of the project at the programming milestone (Milestone 015). Table 7-1 presents the programmed performance measures for the project from the Programming Nomination (PRG) section of the Asset Management Tool (AMT).

Table 7-1: Currently Programmed Performance Measures for the Project

Activity Detail	Unit of Measurement	Quantity	Assets in Good Condition	Assets in Fair Condition	Assets in Poor Condition	New Asset Added
Changeable message sign (201.315)	Each	1	1	—	—	—
CCTV (201.315)	Each	45	8	—	—	37
Communications (fiber optics—201.315)	Linear miles	30.7	—	—	—	30.7
Vehicle detection (201.315)	Each	33	13	—	—	20
Ramp meter (201.315)	Each	5	2	—	—	3
TMS structure component	Each	60	—	—	—	60
TMS technology component	Each	84	24	—	—	60

Notes:
 — = not applicable

CCTV = closed-circuit television
 TMS = traffic monitoring station

Upon further assessment of asset conditions by Traffic System during PAED, numbers of new CMS, CCTV, VDS, and TMS have been updated as shown below. Table 7-2 presents the proposed performance measures for the project from the Post-Programming Changes (PPC) section of the AMT.

Table 7-2: Proposed Performance Measures for the Project

Activity Detail	Unit of Measurement	Quantity	Assets in Good Condition	Assets in Fair Condition	Assets in Poor Condition	New Asset Added
Changeable message sign (201.315)	Each	1	—	—	—	1
CCTV (201.315)	Each	45	—	—	—	45
Communications (fiber optics—201.315)	Linear miles	30.7	—	—	—	30.7
Vehicle detection (201.315)	Each	33	—	—	—	33
Ramp meter (201.315)	Each	5	1	—	1	3
TMS structure component	Each	82	—	—	—	82
TMS technology component	Each	84	1	—	1	82

Notes:
 — = not applicable

CCTV = closed-circuit television
 TMS = traffic monitoring station

See Attachment J for the performance measures for the PRG and PPC sections of the AMT.

Complete Streets

Director's Policy DP-37 ensures that all transportation projects funded or overseen by Caltrans will provide comfortable, convenient, and connected Complete Streets facilities for people traveling by walking, biking, and taking transit or passenger rail.

The following will be considered as part of the project:

- Any permanent changes to local streets where pedestrians and/or bicyclists are permitted will be reviewed by the Pedestrian and Bicycle Branch to ensure that these users are not negatively impacted.
- Existing on- or off-ramps will not be widened where they intersect with local streets, either in total width or in the number of lanes. Widened ramps may result in greater exposure of pedestrians and bicyclists to motor traffic.
- Due to construction on ramps and near local streets, including along Harrison Street in Oakland, proper measures will be taken to notify pedestrians and bicyclists of potential impacts, detours, or road closures.

Context Sensitive Solutions

Caltrans applies context sensitive solutions (CSS) to achieve transportation goals in harmony with community goals and natural environments. For this project, CSS will be realized by placing transportation management system elements so as to minimize visual impacts. The visual changes resulting from the new installation or replacement of the various elements will generally be compatible with the character of the project corridors.

The ability to install the fiber optic systems on either side of the freeway along with the option to directionally bore, will be helpful with minimizing and avoiding environmental impacts and assets. The installation of these elements will mostly be away from pedestrian and bicycle movement except for the 1.5 mile stretch of fiber optic systems installation in the City of Oakland. During construction, necessary notification measures will be taken to inform pedestrians and bicyclists of potential impacts, detours, and/or road closures.

Climate Change Considerations

Construction-Related Greenhouse Gas Emissions

Construction-generated GHG includes emissions resulting from material processing by on-site construction equipment, workers commuting to and from the project site, and traffic delays due to construction. The emissions will be produced at different rates throughout the project depending on the activities involved in the various phases of construction. The analysis focused on vehicle-emitted GHGs. Carbon dioxide (CO₂) is the single most important GHG pollutant due to its abundance relative to other vehicle-emitted GHGs, including methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, and black carbon.

Based on the project information available for environmental studies, the construction-related GHG emissions were calculated using the Construction Emissions Tool 2020 (CAL-CET 2020), version 1.0, developed by Caltrans. CAL-

CET 2020 estimated that for 1,200 construction working days, the total amount of CO₂ produced due to construction would be 3,219 tons.

Table 7-3 summarizes the construction-related emissions, including the total carbon dioxide equivalent (CO₂e) emissions.

Table 7-3: Summary of Construction-related GHG Emissions

Project Location: Ala, SF, SM, SCI Counties on Routes 80, 92, 101, 237, 880/880s, 980, PM Various	Parameters		Project Total	
	CO ₂ (tons)	CH ₄ (tons)	N ₂ O (tons)	CO ₂ e (metric tons)*
Total emissions	3,219	0.094	0.200	2,977

* Gases are converted to CO₂e by multiplying by their GWP. Specifically, GWP is a measure of how much energy the emission of 1 ton of a gas will absorb over a given period relative to the emission of 1 ton of CO₂.

Notes:

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

GHG = greenhouse gas

GWP = global-warming potential

N₂O = nitrous oxide

PM = post mile(s)

Because construction activities are short-term, the GHG emissions resulting from construction activities would not result in long-term adverse effects. Implementation of Caltrans Standard Specifications, such as complying with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract and the use of construction best management practices, would result in reducing GHG emissions from construction activities, including (but not limited to):

- Perform regular vehicle and equipment maintenance.
- Limit idling of vehicles and equipment on-site.
- If practicable, recycle nonhazardous waste and excess material; if such recycling is not practicable, properly dispose of the nonhazardous waste and excess material.
- Use solar-powered signal boards, if feasible.

With innovations such as longer pavement lives, improvements in traffic management, and changes in materials used, construction-related GHG emissions can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Sea Level Rise

The project is on freeways that surround and are directly adjacent to the San Francisco Bay Estuary. This area is vulnerable to Sea Level Rise (SLR). According to the SLR viewer from the National Oceanic and Atmospheric Administration

(NOAA), which is available at <http://coast.noaa.gov/slr>, the project vicinity areas most susceptible to SLR (between 1 foot and 4 feet) are at the following locations:

- Ala-92–PM R2.6/R4.0
- Ala-880–PM 25.5/27.2
- Ala-880–PM 29.9/30.8
- Ala-880–PM R34.0L/R35.3L
- SM-101–PM R20.8/21.6
- SCI-880–PM 10.4/10.5

The improvements needed for the roadway and structures to address SLR are beyond the scope and funding allocated for the project.

California Climate Investments Priority Populations

According to SB 535, disadvantaged communities are disproportionately affected by environmental pollution, low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, and low levels of educational attainment. In Assembly Bill (AB) 1550, low-income communities are defined as census tracts with median household incomes at or below 80 percent of the statewide median income or with median incomes at or below the threshold designated as low income by the US Department of Housing and Urban Development. Both SB 535 and AB 1550 have a formula to direct that a percentage of State GHG-reduction funds be invested in disadvantaged and low-income communities.

Caltrans identified SB 535 and AB 1550 communities within the project limits in Alameda, San Francisco, San Mateo, and Santa Clara Counties. The construction activities and proposed improvements for the project will not result in negative impacts to the environment. The project will use BMPs to implement mitigation to minimize GHG emissions during construction.

Caltrans Equity Statement

State departments of transportation are bound by law to consider the needs of residents with low incomes, communities of color, people with limited English proficiency, seniors, the disabled, and other communities and individuals when developing transportation plans. Caltrans acknowledges that communities of color and underserved communities have experienced fewer benefits and a greater share of negative impacts associated with the California Transportation System. Some of these disparities reflect a history of transportation decision-making, policy, processes, planning, design, and construction that often put up barriers, divided communities, and amplified racial inequities, particularly in disadvantaged neighborhoods. Caltrans recognizes its leadership role and unique responsibility to eliminate barriers and

provide more equitable transportation for all Californians. This understanding is the foundation for intentional decision-making that recognizes past, stops current, and prevents future harms from our actions. Furthermore, Caltrans is developing public outreach methodologies to increase participation by disadvantaged community members and local community-based organizations to ensure that they have a voice in projects that affect their communities.

No Community Impact Assessment was prepared for the project, as this project is anticipated to improve the overall performance of traffic congestion management for the public and specific communities.

Environmental Justice

Information used to identify potential environmental justice issues is documented in corridor plans so that transportation projects ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income. This approach applies to the scope of the project, from the early stages of transportation planning and investment decision making through construction, operations, and maintenance. Title VI of the Civil Rights Act of 1964 states that “[n]o person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” Executive Order 12898, issued in 1994, gave a renewed emphasis to Title VI and added low-income populations to those protected by the principles of environmental justice. There are three fundamental principles at the core of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations
- To ensure the full and fair participation of all potentially affected communities in the transportation decision-making process
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

Caltrans identified environmental justice communities near the project area in Alameda (Cities of Hayward, Oakland, and San Leandro), San Francisco (City of San Francisco), San Mateo (City of South San Francisco), and Santa Clara (City of San Jose) Counties. The construction activities and proposed improvements for the project will not result in negative impacts to the environment. During PS&E, traffic handling plans will be developed and circulated to the locals for comments. District Public Information Officer will implement outreach strategies, such as press release, before construction to inform the public about the upcoming work activities. The project will use BMPs to implement mitigation to minimize GHG emissions during construction.

Equity Priority Communities

MTC’s Equity Priority Communities (EPCs) index is based on eight American Community Survey (ACS) 2014–2018 tract-level variables. The development of MTC’s EPCs index was a part of the Equity Framework within the Regional Transportation Plan. That framework includes equity measures to analyze scenarios and define disadvantaged communities. The eight ACS variables are minority populations, low-income areas, less-English-proficient populations, seniors (age 75 and older), zero-vehicle households, single-parent households, people with disabilities, and rent-burdened households. EPCs within the Regional Transportation Plan area are rated at high and highest levels of concern, meaning these communities are burdened by multiple socioeconomic factors.

Caltrans identified EPCs adjacent to the project area in Alameda (Cities of Hayward, Oakland, and San Leandro), San Francisco (City of San Francisco), San Mateo (City of South San Francisco), and Santa Clara (City of San Jose) Counties. The general impact of the proposed improvements to these underserved communities will be an overall improvement in traffic congestion management.

Broadband and Advanced Technologies

As outlined in California Streets and Highways Code, Chapter 2, Section 2030(d), where feasible, Caltrans shall use advanced technologies and communications systems in transportation infrastructure that recognize and accommodate advanced automotive technologies.

Pursuant to AB 1549 (2016) and Caltrans Deputy Directive (DD)-116, collaboration between Caltrans and agencies working on broadband deployment is encouraged and when feasible, plans for additional wired broadband facilities are accommodated.

This project falls within the 10,000-mile Middle-Mile Broadband Initiative (MMBI) network, where two standalone MMBI projects are being implemented concurrently:

- EA 04-0Y770: In Alameda County, install three to four 2-inch conduits on I-880 from the I-880/I-980 interchange to Davis Street.
- EA 04-1Y710: In San Mateo, San Francisco, and Alameda Counties on US 101, I-80, and I-880, install broadband conduits and fiber optic lines at various locations.

It is anticipated that these two projects be combined with EA 04-2Q740 into one construction contract during PS&E phase.

Additionally, the proposed improvements for the project will not impact the accommodation of wired broadband facilities, fueling for zero-emission vehicles, or provisions for infrastructure-to-vehicle communications for transitional or fully autonomous vehicles.

8. FUNDING, PROGRAMMING, AND ESTIMATE

Funding

It has been determined that the project is eligible for federal-aid funding. A cooperative agreement with MTC, executed on July 19, 2021, details their contributions to both PA&ED support and PS&E support funding. A subsequent cooperative agreement with MTC shall be executed by June 2023 to detail MTC's contributions for construction support and construction funding.

Programming

The project was programmed on June 24, 2020, into the 2020 SHOPP under program code 201.315 (Transportation Management Systems) for the 2022/23 fiscal year. A PCR was approved on May 3, 2023, to increase the Right of Way Capital Outlay from \$63,000 to \$319,000. The specific existing and proposed programmed amounts for the project are shown in the following four tables.

Existing Programmed Amounts

Fund Source	Fiscal Year Estimate								
	Prior	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	2024/ 25	Future	Total
20.XX.201.315									
Component	In thousands of dollars (\$1,000)								
PA&ED Support	—	—	2,155	—	—	—	—	—	2,155
PS&E Support	—	—	—	10,958	—	—	—	—	10,958
Right of Way Support	—	—	—	141	—	—	—	—	141
Construction Support	—	—	—	—	11,071	—	—	—	11,071
Right of Way	—	—	—	—	63	—	—	—	63
Construction	—	—	—	—	78,761	—	—	—	78,761
Total:	—	—	2,155	11,099	89,895	—	—	—	103,149

Notes:

— = not applicable

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

The existing programmed support cost ratio is 30.9%.

Proposed Programmed Amounts

Fund Source	Fiscal Year Estimate								
20.XX.201.315	Prior	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	2024/ 25	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support	—	—	2,155	—	—	—	—	—	2,155
PS&E Support	—	—	—	10,958	—	—	—	—	10,958
Right of Way Support	—	—	—	141	—	—	—	—	141
Construction Support	—	—	—	—	11,071	—	—	—	11,071
Right of Way	—	—	—	—	319	—	—	—	319
Construction	—	—	—	—	78,761	—	—	—	78,761
Total	—	—	2,155	11,099	90,151	—	—	—	103,405

Fund Source	Fiscal Year Estimate								
MTC Cooperative Agreement	Prior	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	2024/ 25	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support	—	—	—	1,730	—	—	—	—	1,730
PS&E Support	—	—	—	—	10	—	—	—	10
Right of Way Support	—	—	—	—	—	—	—	—	—
Construction Support	—	—	—	—	1,058	—	—	—	1,058
Right of Way	—	—	—	—	—	—	—	—	—
Construction	—	—	—	—	6,442	—	—	—	6,442
Total	—	—	—	1,730	7,510	—	—	—	9,240

Fund Source	Fiscal Year Estimate								
Combined	Prior	2019/ 20	2020/ 21	2021/ 22	2022/ 23	2023/ 24	2024/ 25	Future	Total
Component	In thousands of dollars (\$1,000)								
PA&ED Support	—	—	2,155	1,730	—	—	—	—	3,885
PS&E Support	—	—	—	10,958	10	—	—	—	10,968
Right of Way Support	—	—	—	141	—	—	—	—	141
Construction Support	—	—	—	—	12,129	—	—	—	12,129
Right of Way	—	—	—	—	319	—	—	—	319
Construction	—	—	—	—	85,203	—	—	—	85,203
Total	—	—	2,155	12,829	97,661	—	—	—	112,645

Notes:

— = not applicable

MTC = Metropolitan Transportation Commission

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

The proposed support cost ratio (total support cost divided by total construction cost) is 31.8%.

Estimate

A Preliminary Cost Estimate has been prepared for the project (see Attachment K). The current escalated construction capital cost estimate is \$85,203,000.

The PIR never captured railroad costs thus the increase the Right of Way Capital costs are increased. Additional Construction Capital and various Support costs are needed for the additional MTC scope that was added via a cooperative agreement.

9. DELIVERY SCHEDULE

The following table lists the project milestones, their dates, and their designations.

Project Milestones		Milestone Date	Milestone Designation
PROGRAM PROJECT	M015	04/01/2020	Actual
BEGIN ENVIRONMENTAL	M020	12/07/2020	Actual
PA&ED	M200	07/29/2022	Target
BEGIN STRUCTURE	M215	06/02/2022	Target
CIRCULATE PLANS IN DISTRICT	M300	10/03/2022	Target
PS&E TO DOE	M377	01/12/2023	Target
DRAFT STRUCTURES PS&E	M378	01/31/2023	Target
PROJECT PS&E	M380	03/31/2023	Target
RIGHT OF WAY CERTIFICATION	M410	04/10/2023	Target
READY TO LIST	M460	05/31/2023	Target
FUND ALLOCATION	M470	08/23/2023	Target
HEADQUARTERS ADVERTISE	M480	11/23/2023	Target
AWARD	M495	01/02/2024	Target
APPROVE CONTRACT	M500	02/04/2024	Target
CONTRACT ACCEPTANCE	M600	10/15/2025	Target
END PROJECT EXPENDITURES	M800	04/15/2027	Target
FINAL PROJECT CLOSEOUT	M900	03/15/2028	Target

Notes:

DOE = District Office Engineer

M = milestone

PA&ED = Project Approval and Environmental Document

PS&E = Plans, Specifications, and Estimate

The proposed accelerated schedule can only be met if the project is split into smaller projects via a PCR during the Design Phase and delivered by multiple design teams and constructed by simultaneous contracts. The CTC time extension request will be prepared to address the schedule delay as needed. The project schedule will be adjusted based on the time extension once approved. Aerial photography will be used

for base maps for the contract plans instead of the traditional photogrammetric digital topographic maps.

10. RISKS

A Level 2 Risk Register has been prepared to identify the various project management, design, construction, and right of way risks that could affect the design and construction phases of the project. Each risk is given a probability, a cost impact, time impact ratings, and risk response actions. Some of the risks with higher impact scores are listed below:

- Unidentified utility conflicts may be encountered during construction which will result in additional project costs.
- Project cost increases due to changing economic conditions may lead to funding shortfalls which will result in additional project costs.
- Bid solicitation may be an issue due to the need for specialty contractors which will result in additional project costs and delays.
- Railroad coordination involves various entities and will need their inputs and concurrences which may lead to project delays.

For more details, refer to the Risk Register (Attachment L).

11. EXTERNAL AGENCY COORDINATION

Federal Highway Administration

The project has not been identified as a Project of Division Interest; thus, it is a Delegated Project in accordance with the current Stewardship and Oversight Agreement on Project Assumption and Program Oversight by and between the Federal Highway Administration (FHWA) California Division and Caltrans (dated May 28, 2015).

Other Agencies

The project requires the following coordination:

- US Army Corps of Engineers
 - Department of the Army Permit for: Clean Water Act Section 404
- Regional Water Quality Control Board:
 - Clean Water Act Section 401
- San Francisco Bay Conservation and Development Commission

- Administrative Permit, or Regionwide Permit
- Local Agency: MTC
 - Cooperative agreements
- Local Agency: City of Oakland
 - Various permits
- Local Agency: BART
 - Agreements with BART
- Railroads
 - Various railroad agreements for at-grade or separated-grade crossings with Amtrak, BART, BNSF Railway, Municipal Railway, Oakland Terminal Railway, Union Pacific Railroad, and Santa Clara Valley Transportation Authority

12. PROJECT REVIEWS

Table 12-1 lists the project reviews by type, reviewer(s), and date of review.

Table 12-1: Project Reviews by Type, Reviewer(s), and Date of Review

Type of Review	Reviewer(s)	Date of Review
District Program Advisor	Chung Ly	04/29/2022
District Maintenance	Monique Nguyen	05/05/2022
Headquarters Project Delivery Coordinator	Robert Effinger	04/29/2022
Project Manager	Muthanna Omran	05/05/2022
FHWA	Lanh Phan	04/29/2022
District Safety Review	Haixiong Xu	04/28/2022
Constructability Review	Robert Kobal	05/10/2022

Notes:

FHWA = Federal Highway Administration

SHOPP = State Highway Operation and Protection Program

13. PROJECT PERSONNEL

Table 13-1 lists the project personnel by name, title/office, and telephone number.

Table 13-1: Project Personnel by Name, Title/Office, and Telephone Number

Name	Title/Office	Telephone Number
Chung Ly	District Program Advisor	(510) 393-4519
Muthanna Omran	Project Manager	(510) 286-5800
Ahmed Moin	Assistant Project Manager	(408) 476-0461
James Hsiao	Design Office Chief	(510) 286-5080
Tin Win	Design Senior	(510) 496-9279
Van Hew	Project Engineer	(510) 362-6092
Denis Coghlan	Biology (Kleinfelder)	(415) 260-9348
Kenneth Xu	Electrical Design Office Chief	(510) 286-4765
Michael Lee	Electrical System	(510) 286-6142
Kevin Krewson	Environmental Engineering	(510) 812-6331
Tanvi Gupta	Environmental Planner	(510) 421-8378
Yuncon Tu	Landscape Architecture	(510) 286-5218
David Mars	R/W Project Coordinator	(510) 286-5497
Alden Chalk	R/W Railroad Coordinator	(510) 286-5388
Mojgan Osooli	Storm Water Design Senior	(510) 926-0380
Hong Wong	Utility Engineering Workgroup	(510) 406-3809

Notes:

R/W = Right of Way

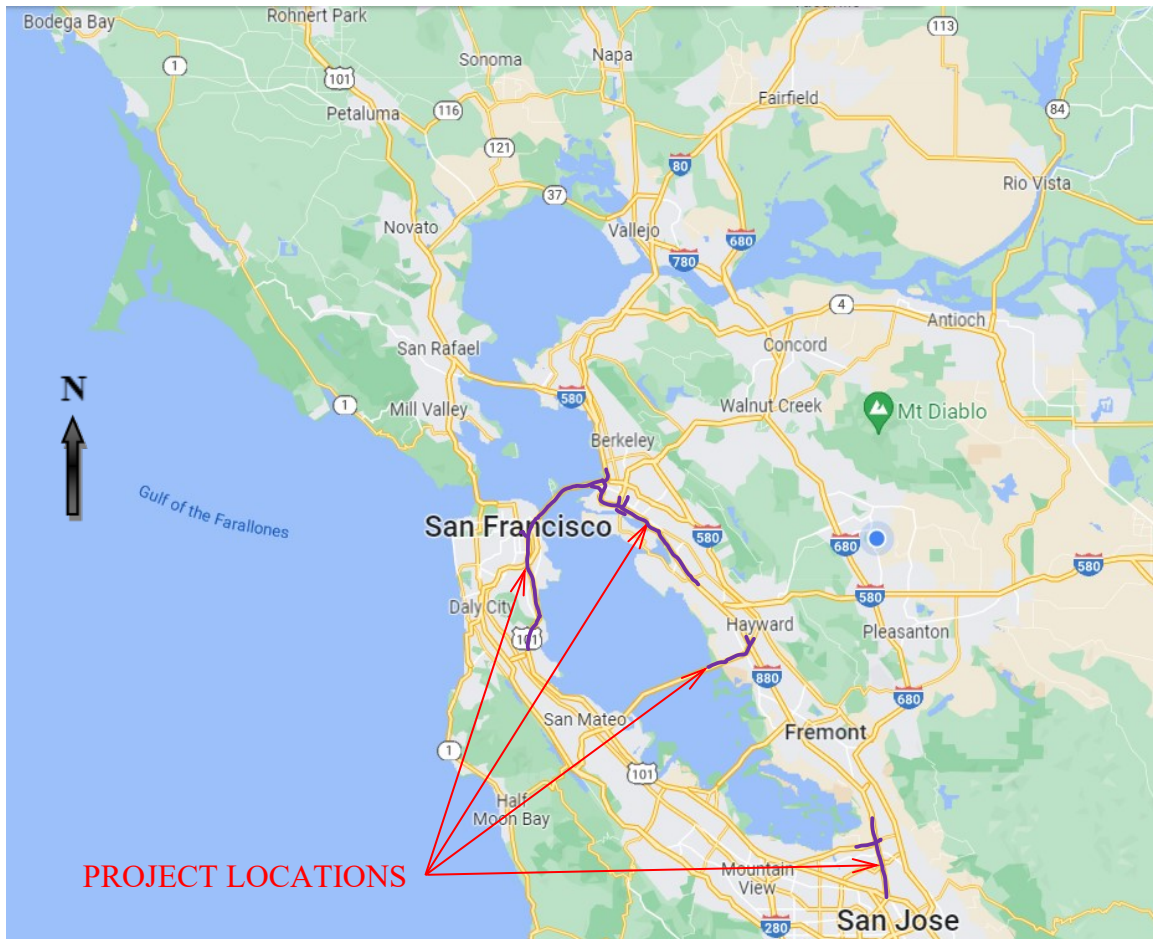
14. ATTACHMENTS (Number of Pages)

- A. Location Map (1)
- B. Preliminary Layouts (56)
- C. Preliminary Ramp-Metering Layouts (9)
- D. Right of Way Data Sheet (8)
- E. Fiber Optic Systems – City of Oakland (3)
- F. Environmental Document: Categorical Exemption/Categorical Exclusion (7)
- G. Stormwater Data Report – Long Form (11)
- H. Cooperative Agreement and Cooperative Agreement Report (48)
- I. Transportation Management Plan Data Sheet (2)
- J. SHOPP Project – Accomplishment – Performance Measures – Benefits (2)
- K. Preliminary Cost Estimate (15)
- L. Risk Register (2)

Attachment A

Location Map

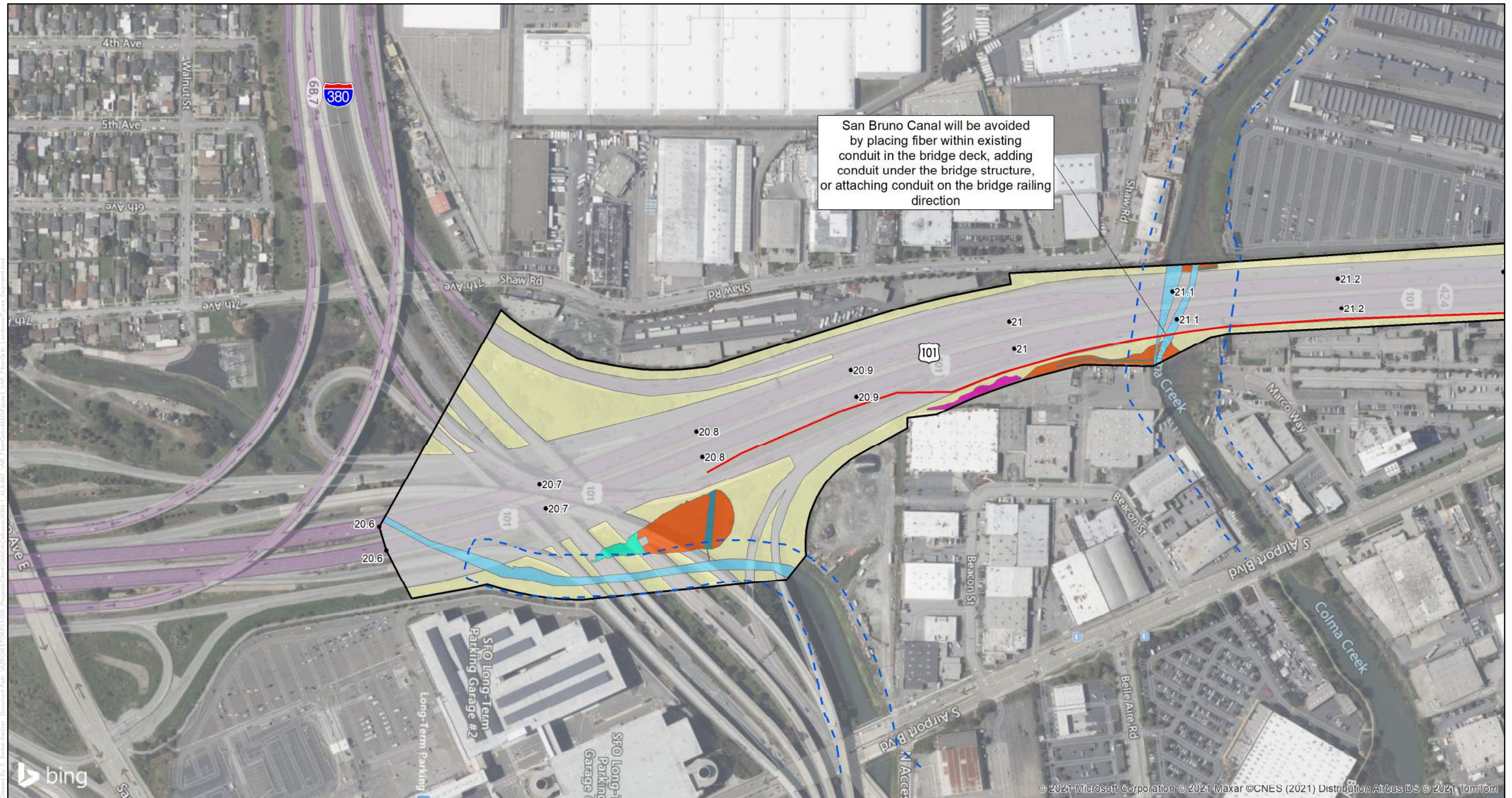
Location Map



In Alameda, San Francisco, San Mateo, and Santa Clara Counties at Various Locations.

Attachment B

Preliminary Layouts



Vegetation Landcover Type

- Brackish marsh
- Culvert
- Freshwater marsh
- Intermittent riverine

- Railroad
- Riparian Woodland
- Road
- Saltmarsh
- Tidal Intermittent riverine

- Tidal Perennial riverine
- Tidal brackish pond
- Tidal open waters
- Tidal slough
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

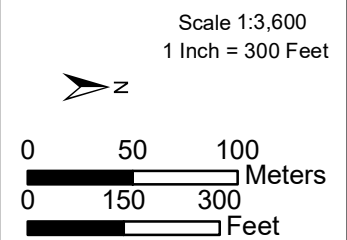
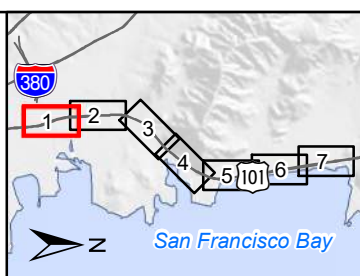
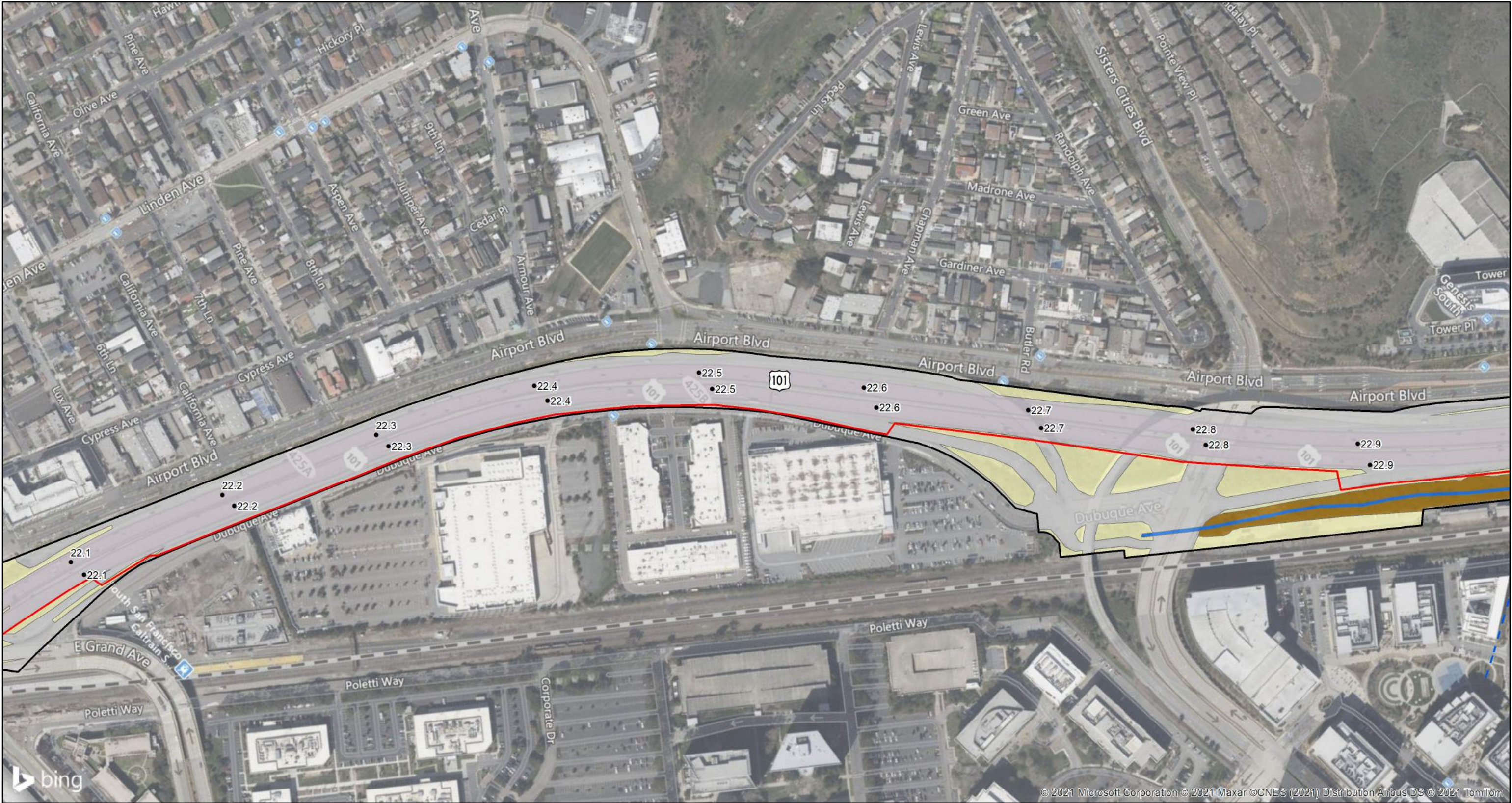


Figure 3: Map 1 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101
 EA: 2Q740
 VAR Fiber Optic
 San Mateo County, CA





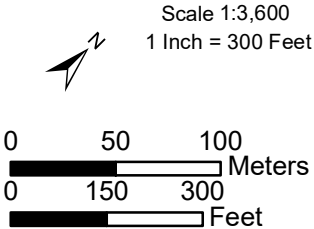
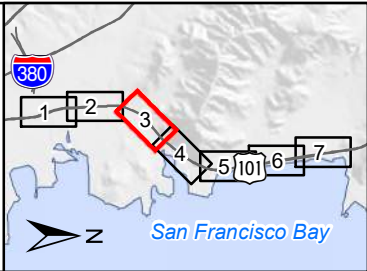
Vegetation Landcover Type

- Brackish marsh
- Culvert
- Freshwater marsh
- Intermittent riverine

- Railroad
- Riparian Woodland
- Road
- Saltmarsh
- Tidal Intermittent riverine

- Tidal Perennial riverine
- Tidal brackish pond
- Tidal open waters
- Tidal slough
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles



**Figure 3: Map 3 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101**
EA: 2Q740
VAR Fiber Optic
San Mateo County, CA





Vegetation Landcover Type

- Brackish marsh
- Culvert
- Freshwater marsh
- Intermittent riverine

- Railroad
- Riparian Woodland
- Road
- Saltmarsh
- Tidal Intermittent riverine

- Tidal Perennial riverine
- Tidal brackish pond
- Tidal open waters
- Tidal slough
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

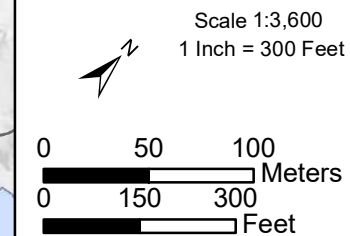
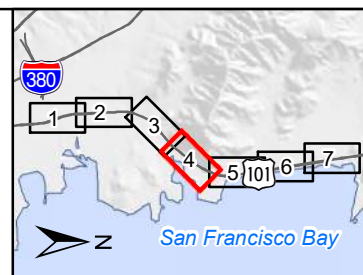


Figure 3: Map 4 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101
EA: 2Q740
VAR Fiber Optic
San Mateo County, CA





Vegetation Landcover Type

- Brackish marsh
- Culvert
- Freshwater marsh
- Intermittent riverine

- Railroad
- Riparian Woodland
- Road
- Saltmarsh
- Tidal Intermittent riverine

- Tidal Perennial riverine
- Tidal brackish pond
- Tidal open waters
- Tidal slough
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- - - BCDC Jurisdiction
- Post Miles

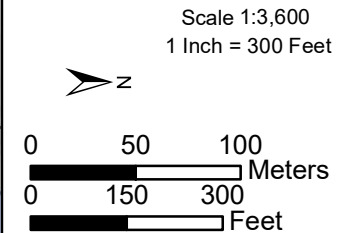
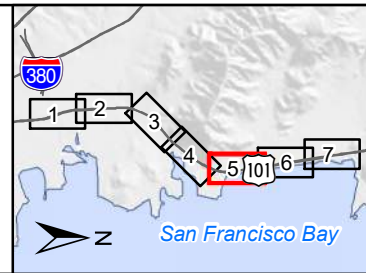


Figure 3: Map 5 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101
 EA: 2Q740
 VAR Fiber Optic
 San Mateo County, CA





Project Location

Vegetation Landcover Type		Railroad	Tidal Perennial riverine	Biological Study Area Proposed Fiber Alignment Existing Fiber Conduit BCDC Jurisdiction Post Miles
Brackish marsh	Riparian Woodland	Tidal brackish pond	Tidal open waters	
Culvert	Road	Tidal slough	Tidal Intermittent riverine	
Freshwater marsh	Saltmarsh	Urban/Landscaped		
Intermittent riverine				

Scale 1:3,600
1 Inch = 300 Feet

0 50 100 Meters
0 150 300 Feet

Figure 3: Map 6 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101
 EA: 2Q740
 VAR Fiber Optic
 San Mateo County, CA



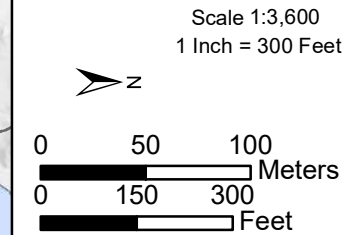
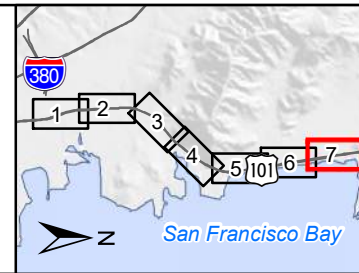
Vegetation Landcover Type

- Brackish marsh
- Culvert
- Freshwater marsh
- Intermittent riverine

- Railroad
- Riparian Woodland
- Road
- Saltmarsh
- Tidal Intermittent riverine

- Tidal Perennial riverine
- Tidal brackish pond
- Tidal open waters
- Tidal slough
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles



**Figure 3: Map 7 of 7
Habitat Mapping and Project Elements:
Segment 4, SM-101**
EA: 2Q740
VAR Fiber Optic
San Mateo County, CA





Vegetation/Landcover Type

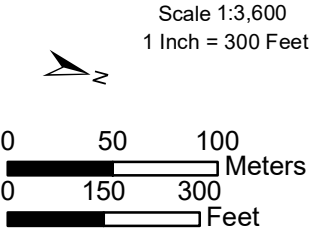
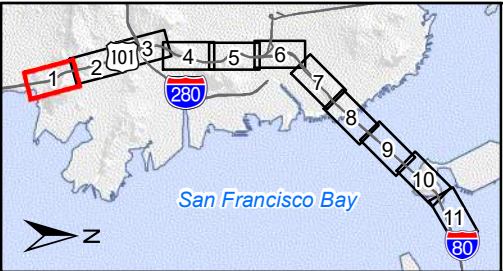
- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

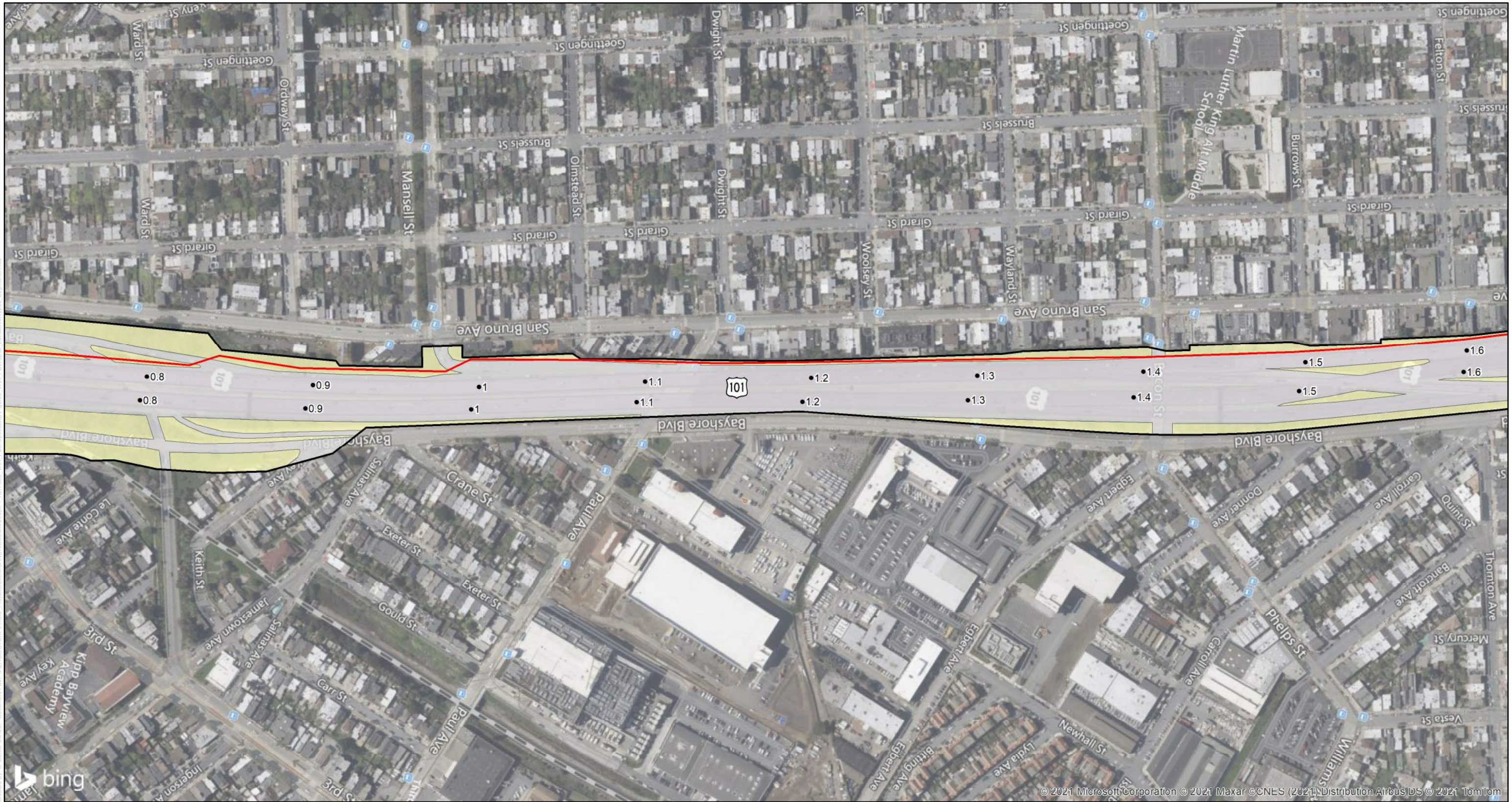
Project Elements

- CCTV
- CMS
- VDS



**Figure 3: Map 1 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80**
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

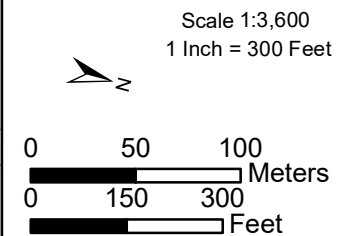
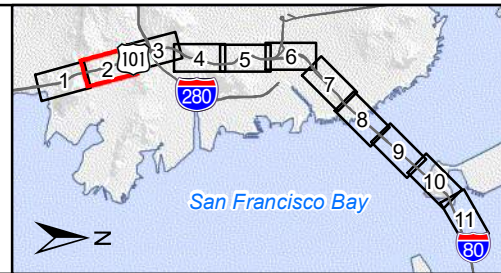


Figure 3: Map 2 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

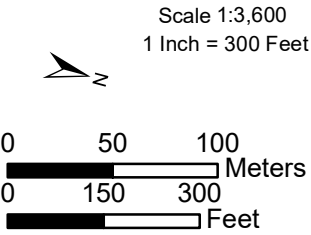
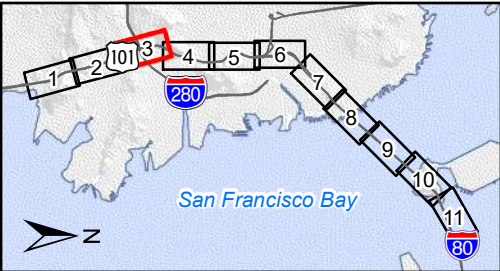


Figure 3: Map 3 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

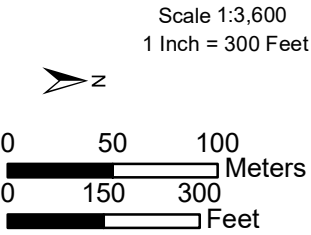
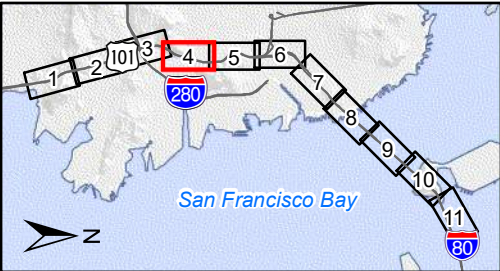
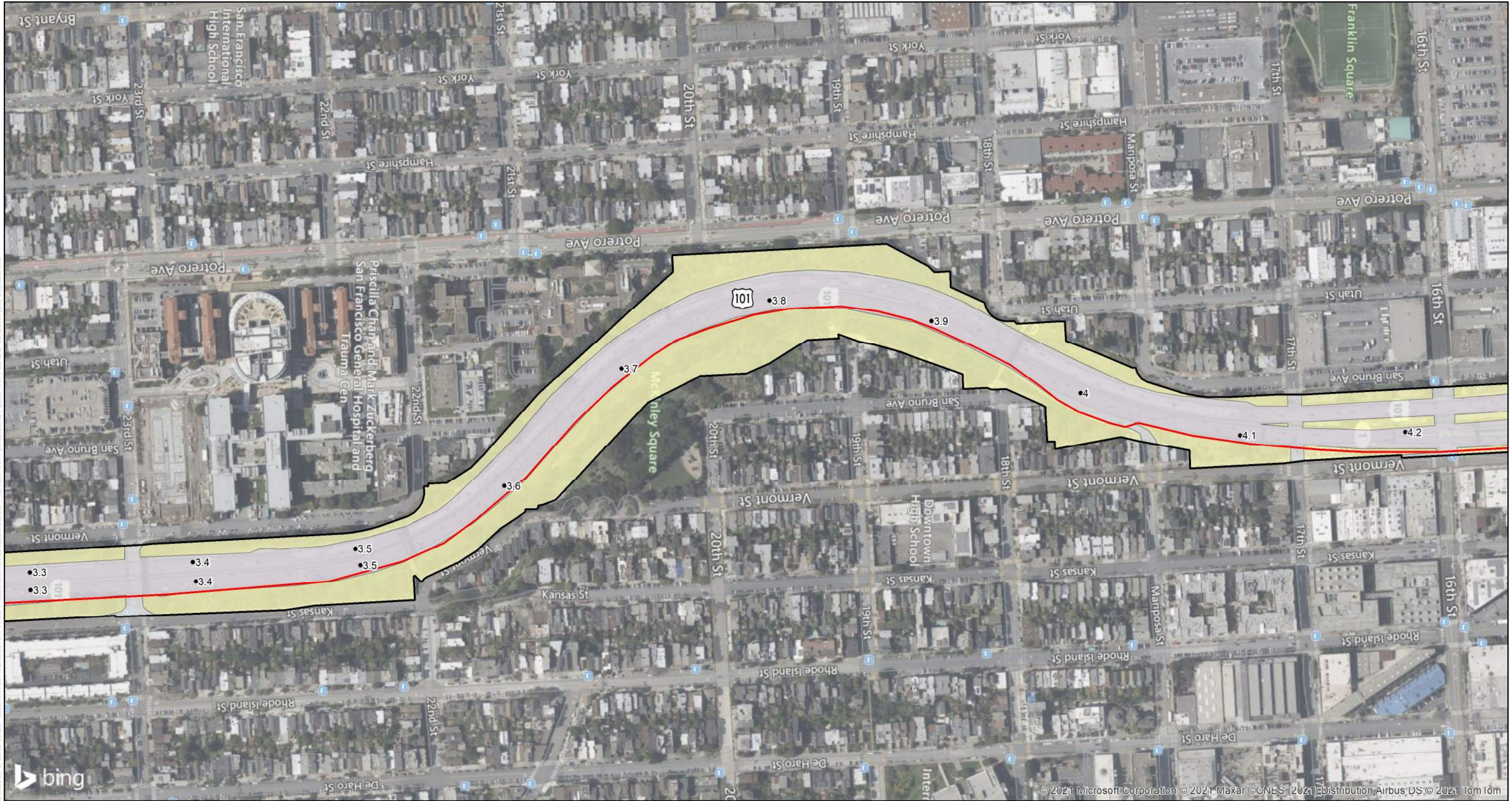


Figure 3: Map 4 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

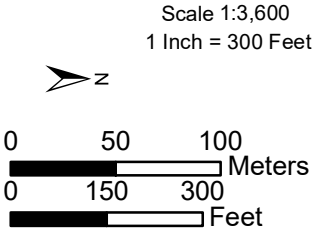
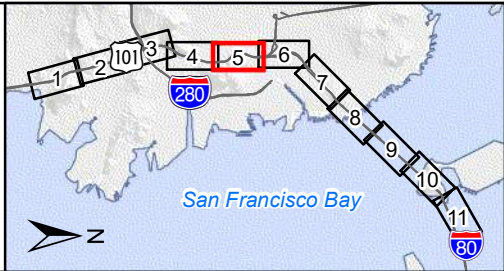


Figure 3: Map 5 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA



Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

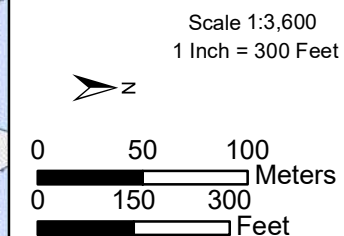
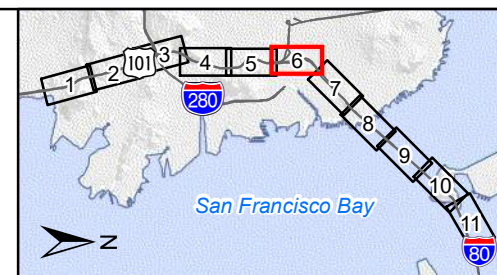
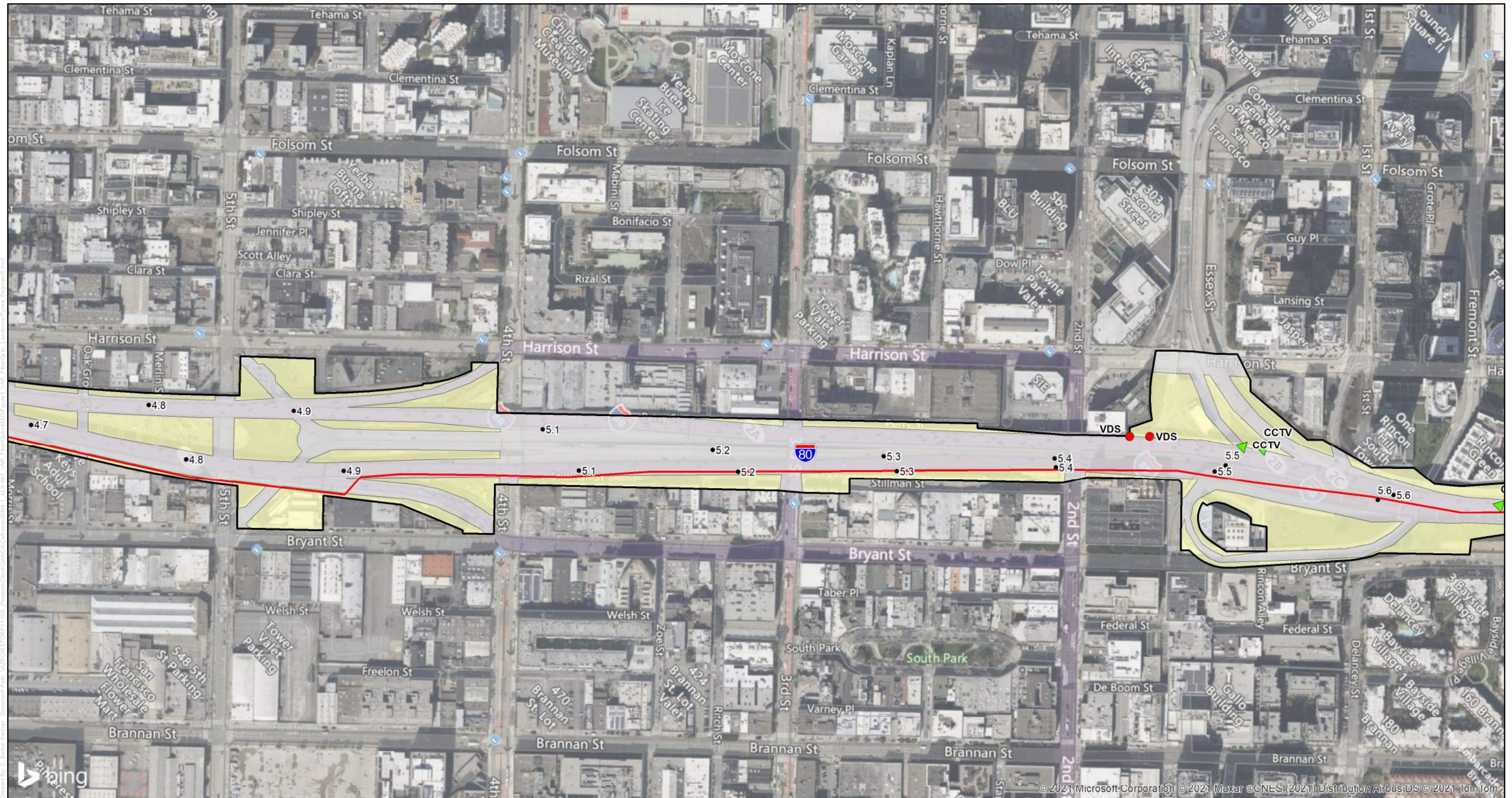


Figure 3: Map 6 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

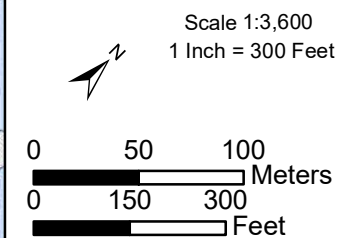
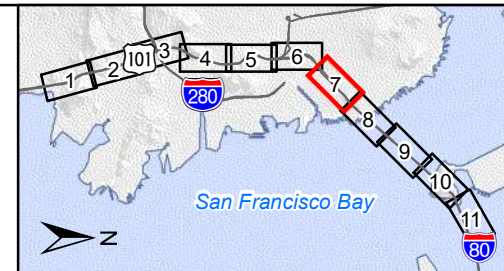


Figure 3: Map 7 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

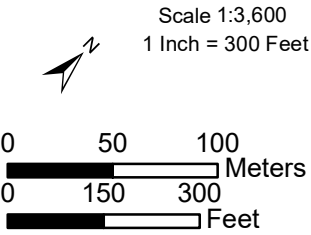
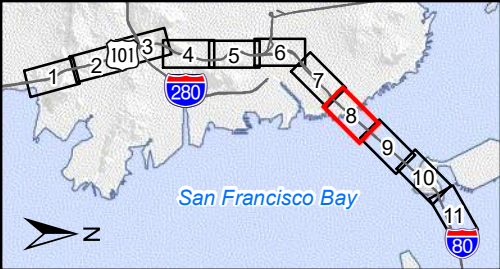


Figure 3: Map 8 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

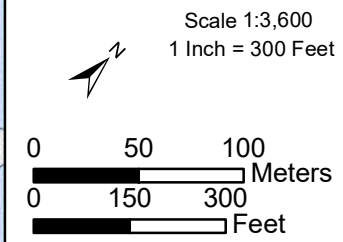
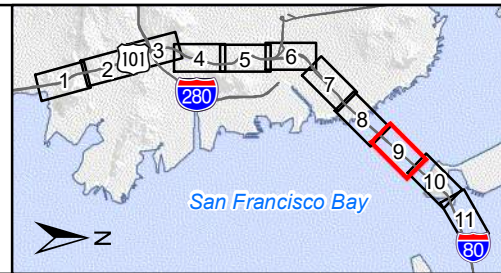


Figure 3: Map 9 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
EA: 2Q740
VAR Fiber Optic
San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

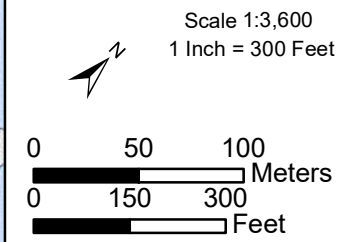
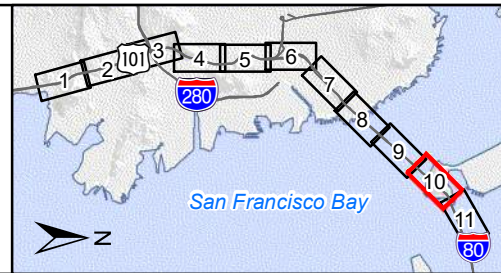


Figure 3: Map 10 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
 EA: 2Q740
 VAR Fiber Optic
 San Francisco County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- CMS
- VDS

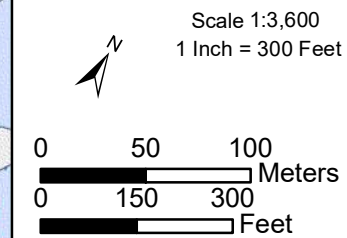
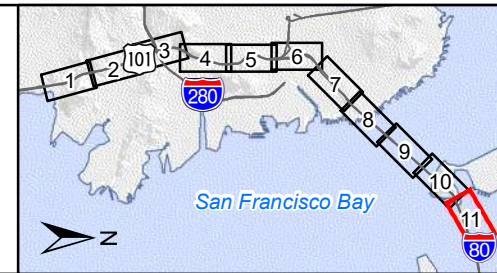
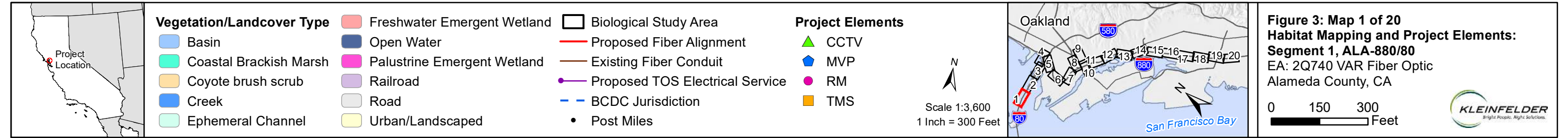
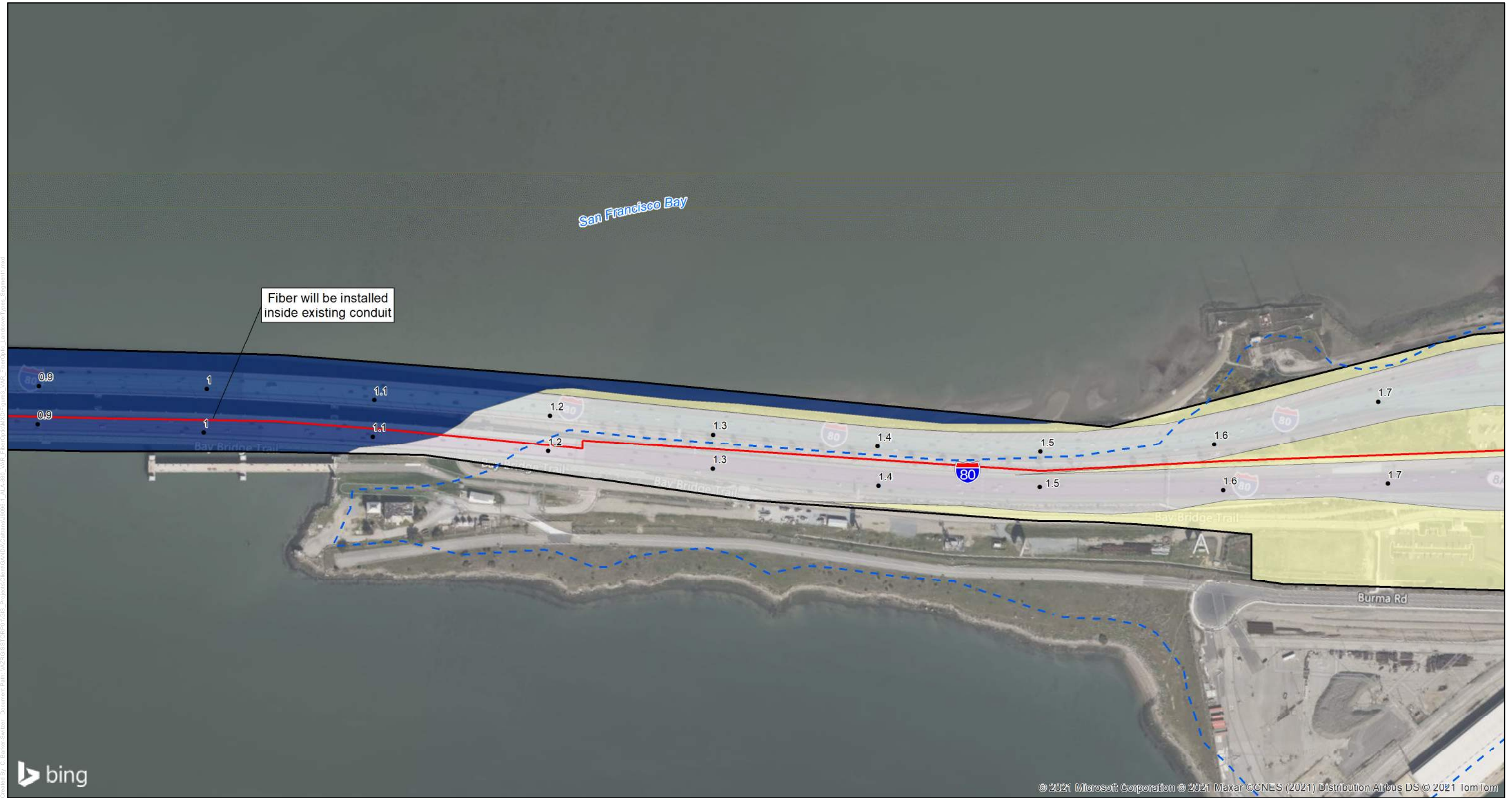


Figure 3: Map 11 of 11
Habitat Mapping and Project Elements:
Segment 5, SF-101, 80
 EA: 2Q740
 VAR Fiber Optic
 San Francisco County, CA







Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

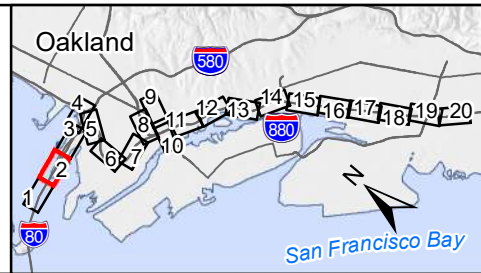
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet




**Figure 3: Map 2 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet






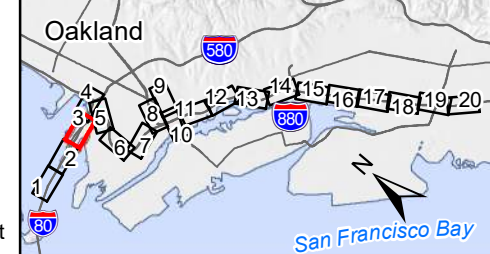


Project Location

Vegetation/Landcover Type		Project Elements	
Basin	Freshwater Emergent Wetland	Biological Study Area	CCTV
Coastal Brackish Marsh	Open Water	Proposed Fiber Alignment	MVP
Coyote brush scrub	Palustrine Emergent Wetland	Existing Fiber Conduit	RM
Creek	Railroad	Proposed TOS Electrical Service	TMS
Ephemeral Channel	Road	BCDC Jurisdiction	
	Urban/Landscaped	Post Miles	

Scale 1:3,600
1 Inch = 300 Feet






Oakland

San Francisco Bay

Figure 3: Map 3 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA

0 150 300 Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

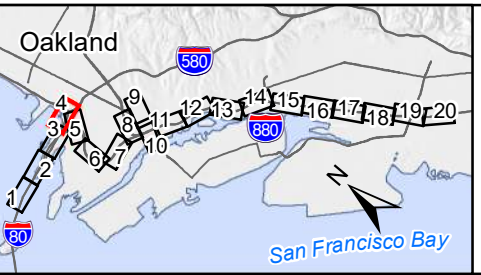
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

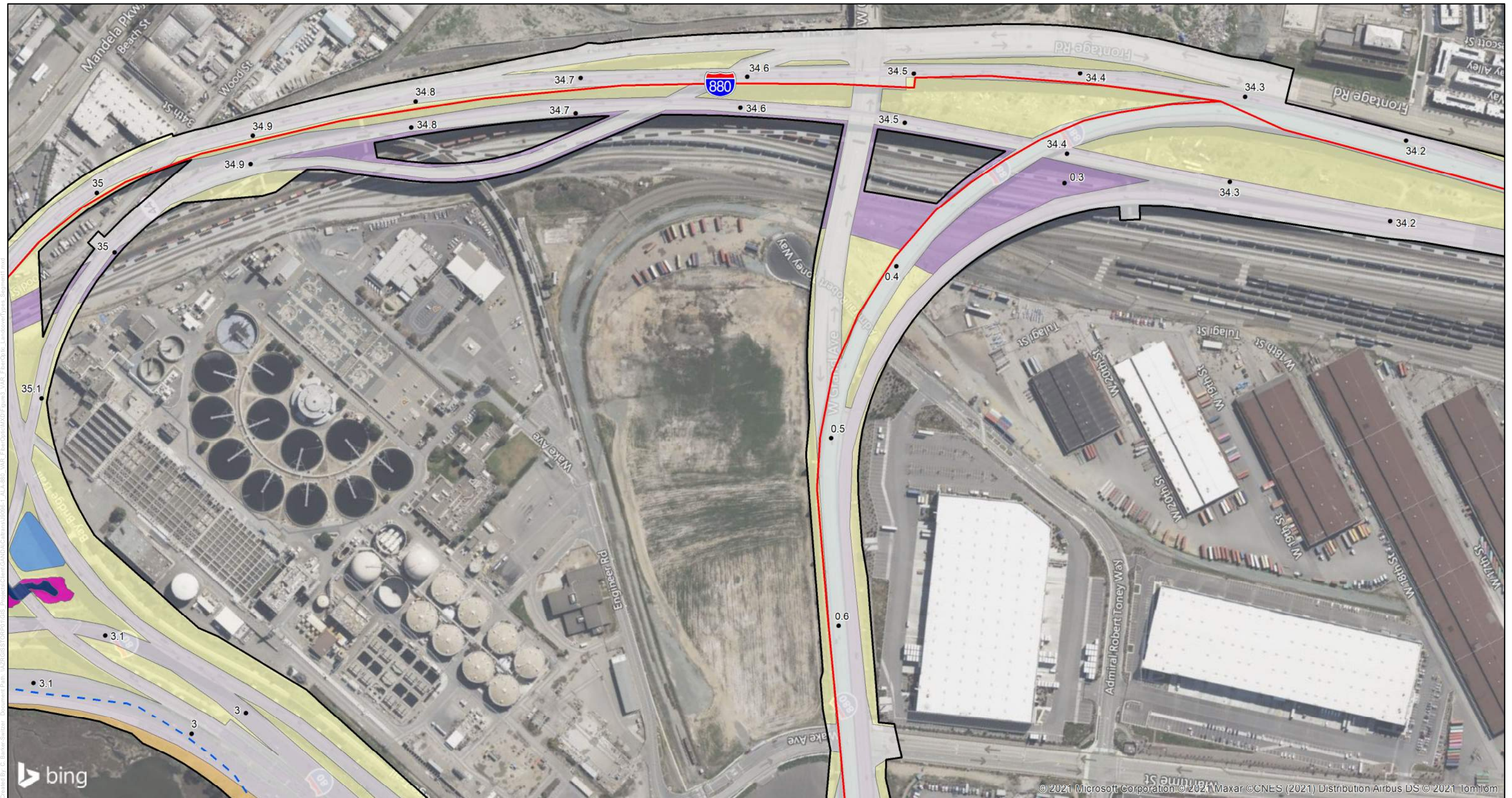
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 4 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet

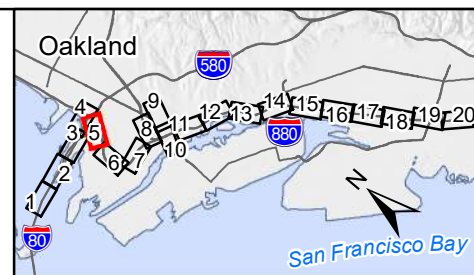
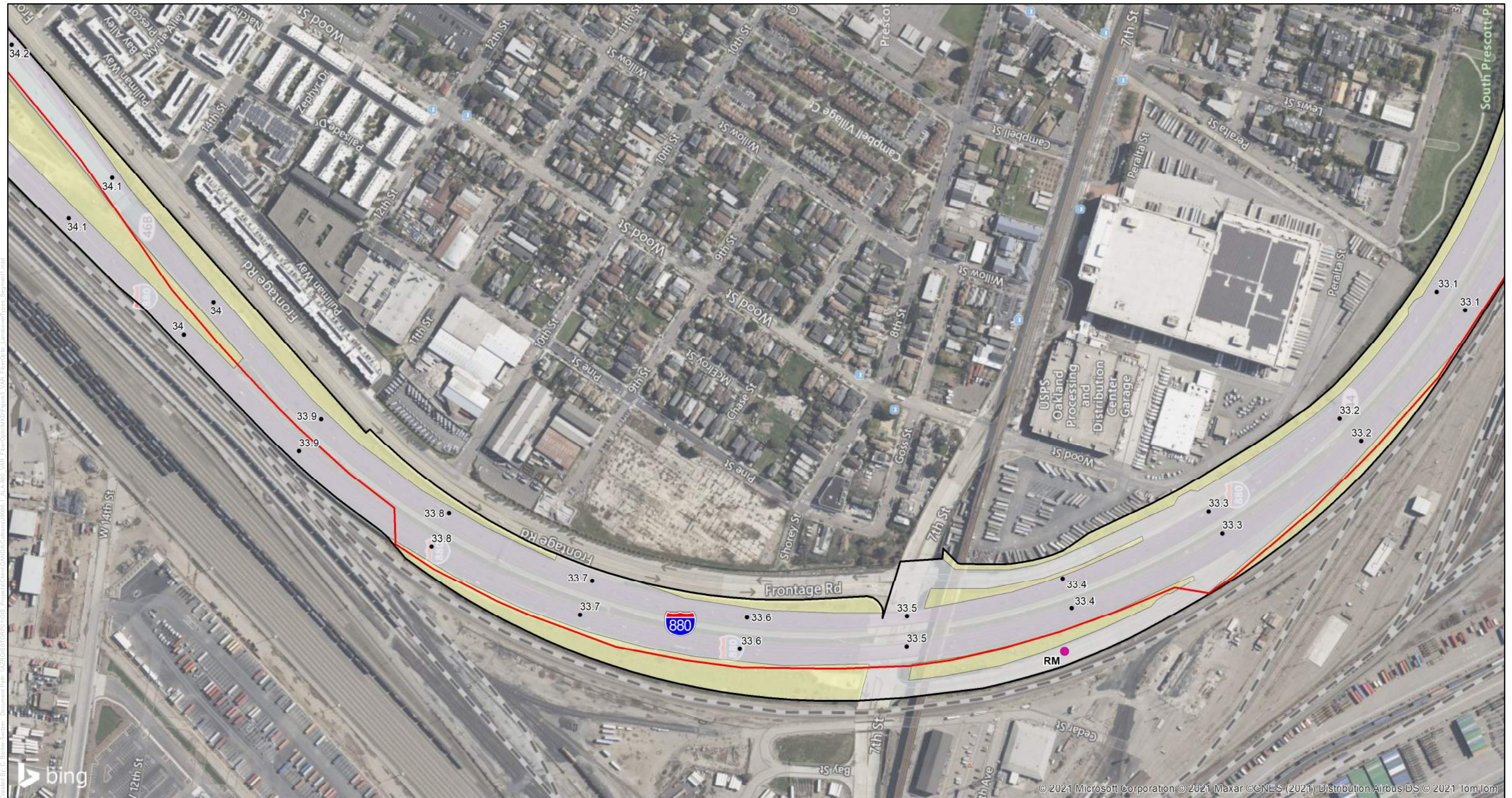


Figure 3: Map 5 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

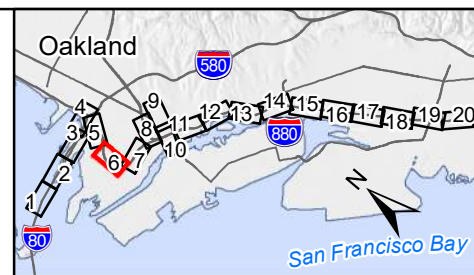
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 6 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

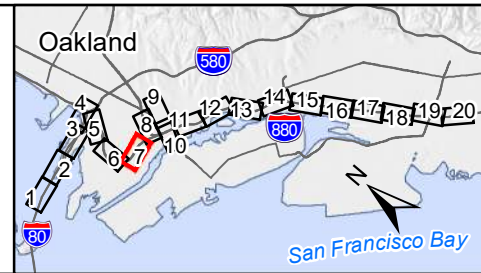
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 7 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet

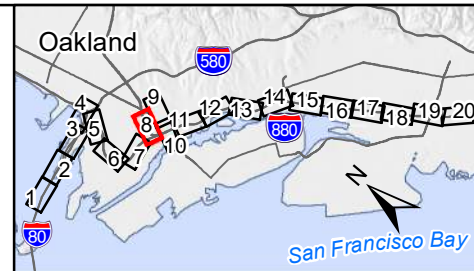


Figure 3: Map 8 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

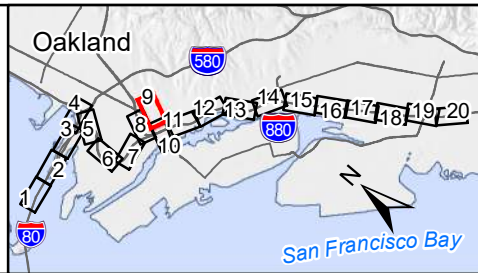
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

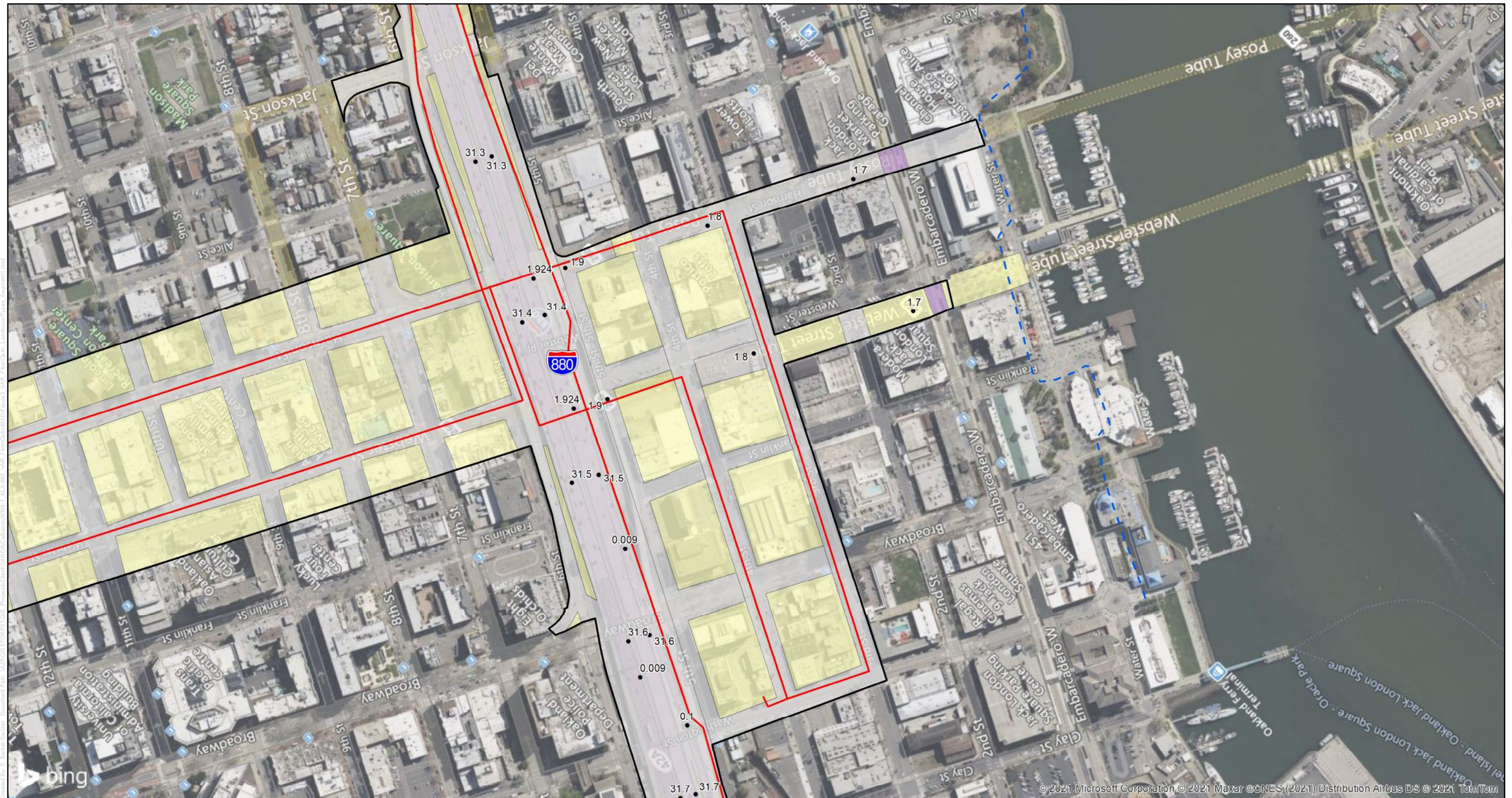
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 9 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet

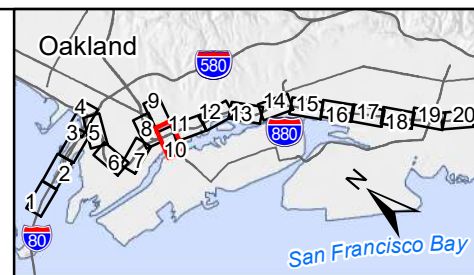
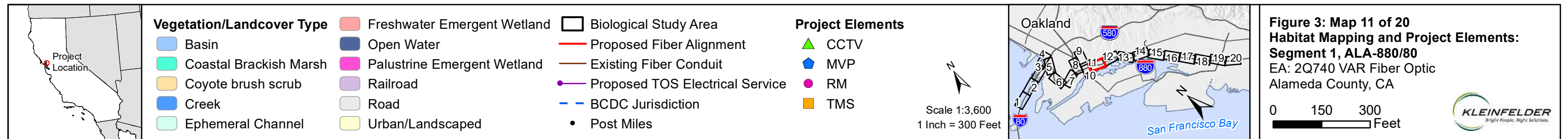
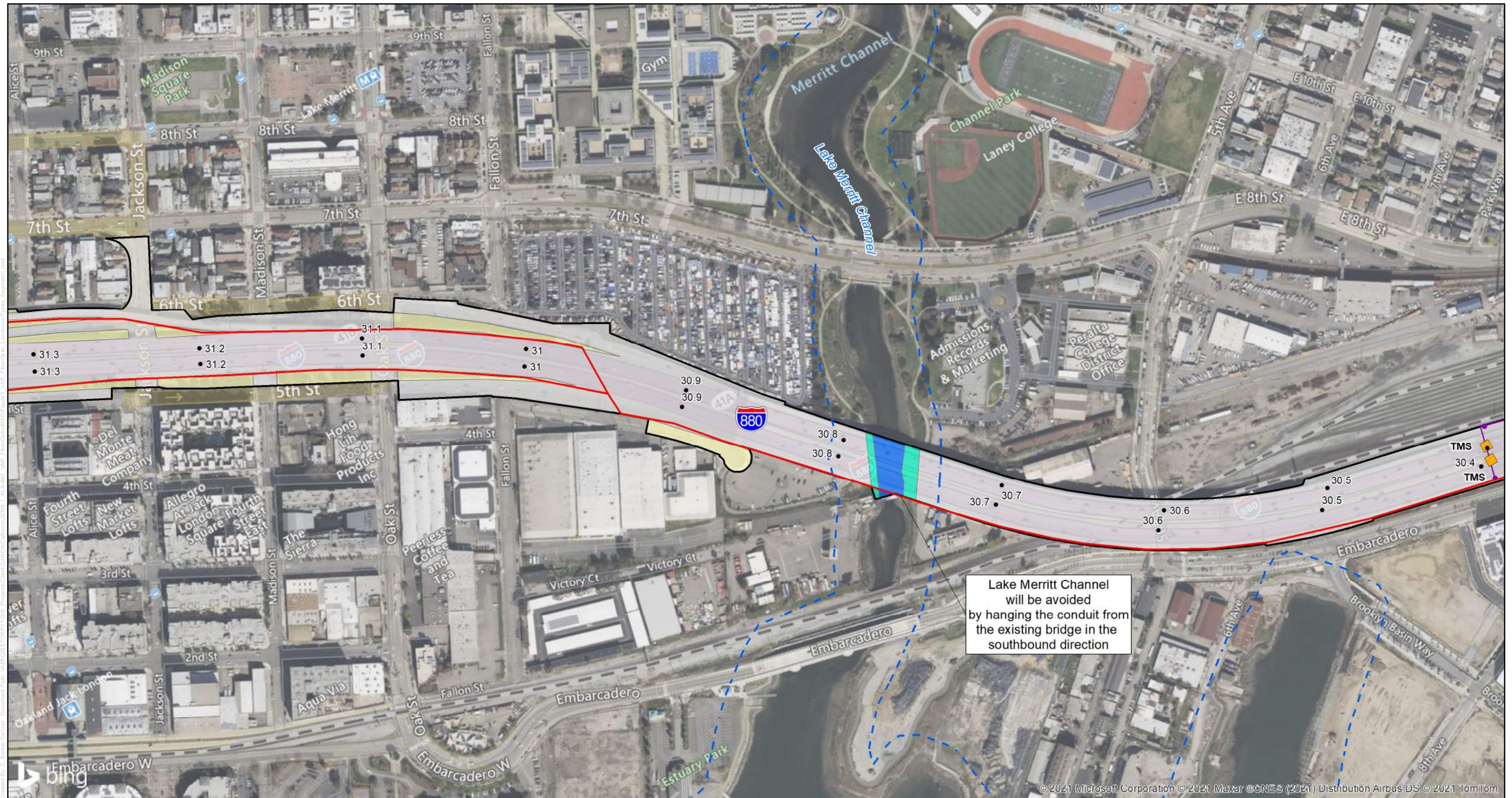


Figure 3: Map 10 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA

0 150 300
Feet







Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- ▲ CCTV
- ◆ MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet

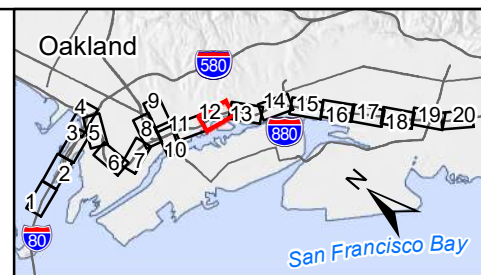
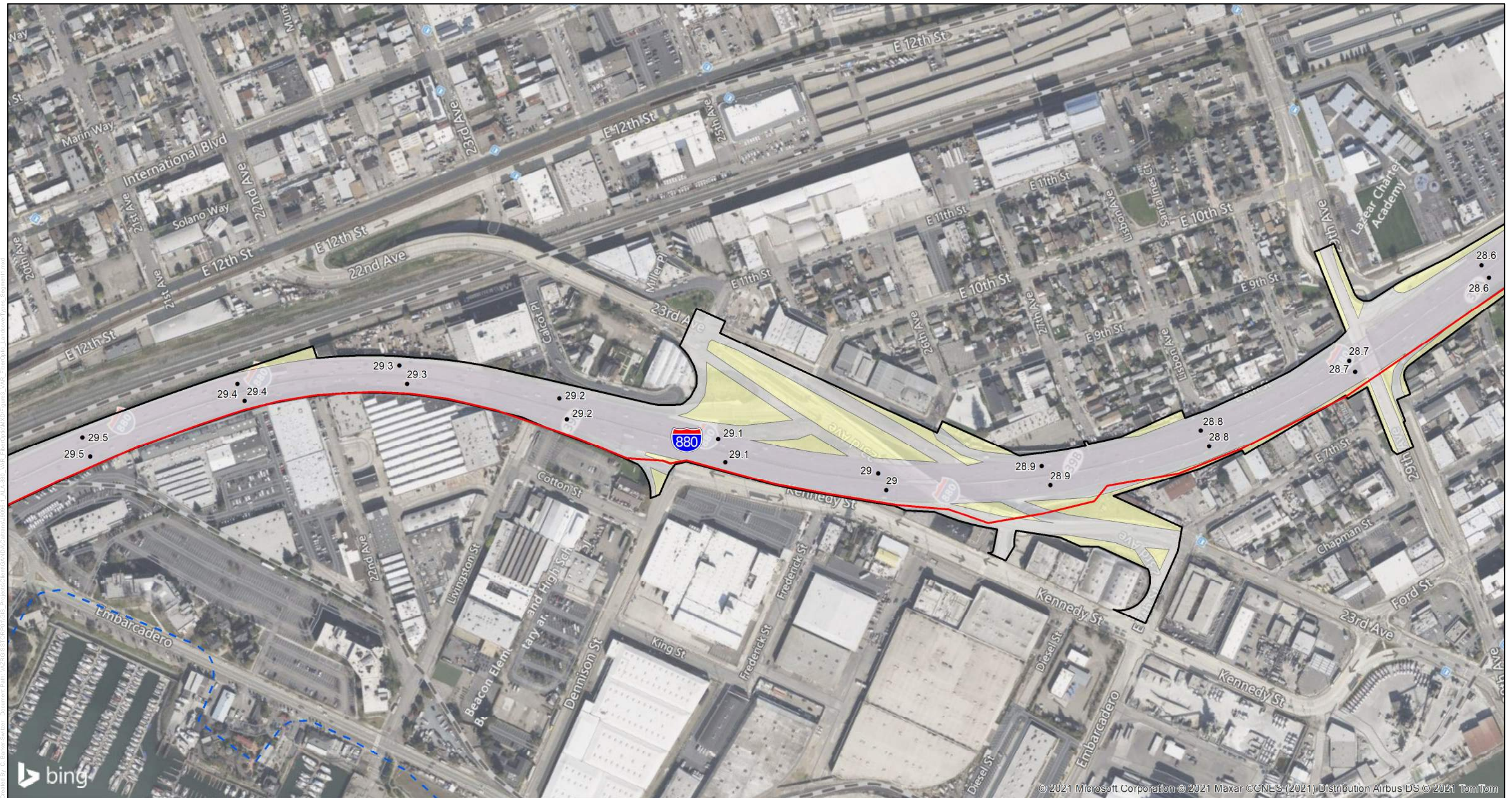


Figure 3: Map 12 of 20 Habitat Mapping and Project Elements: Segment 1, ALA-880/80

EA: 2Q740 VAR Fiber Optic
Alameda County, CA

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

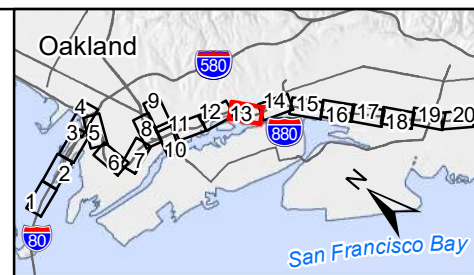
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

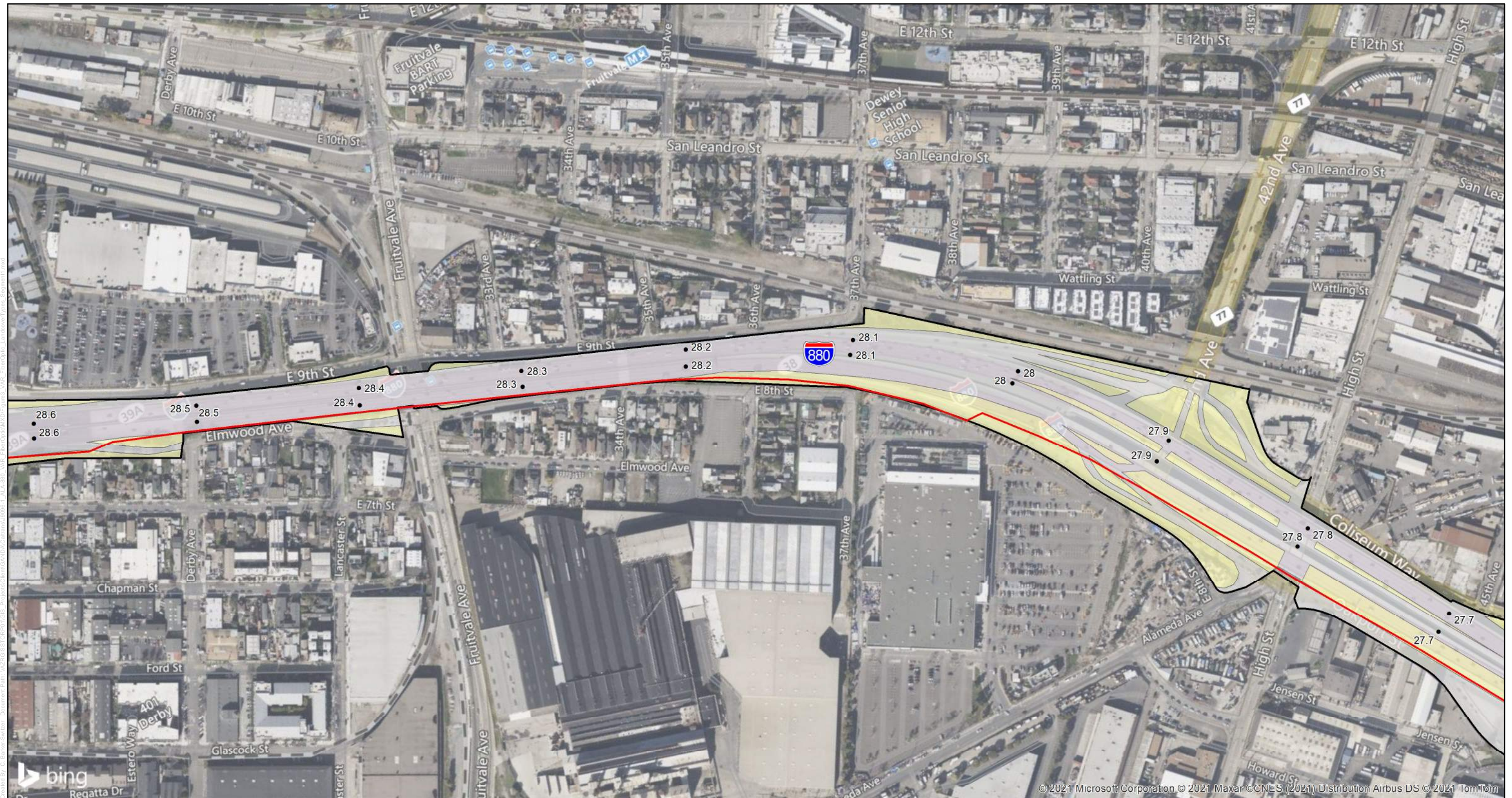
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 13 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

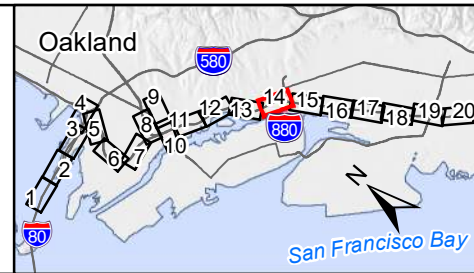
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

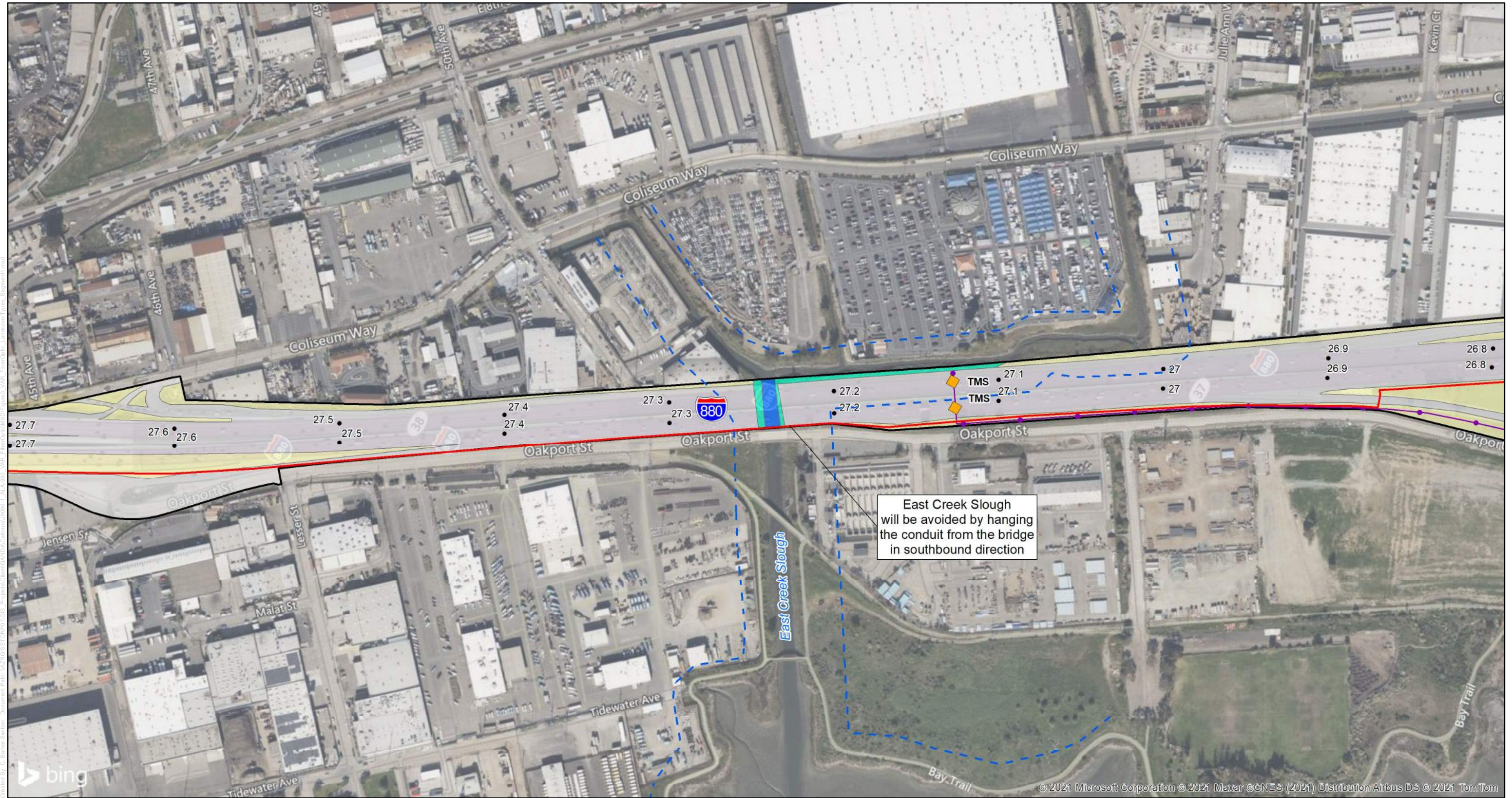
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 14 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

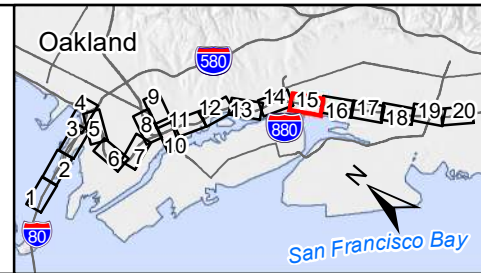
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

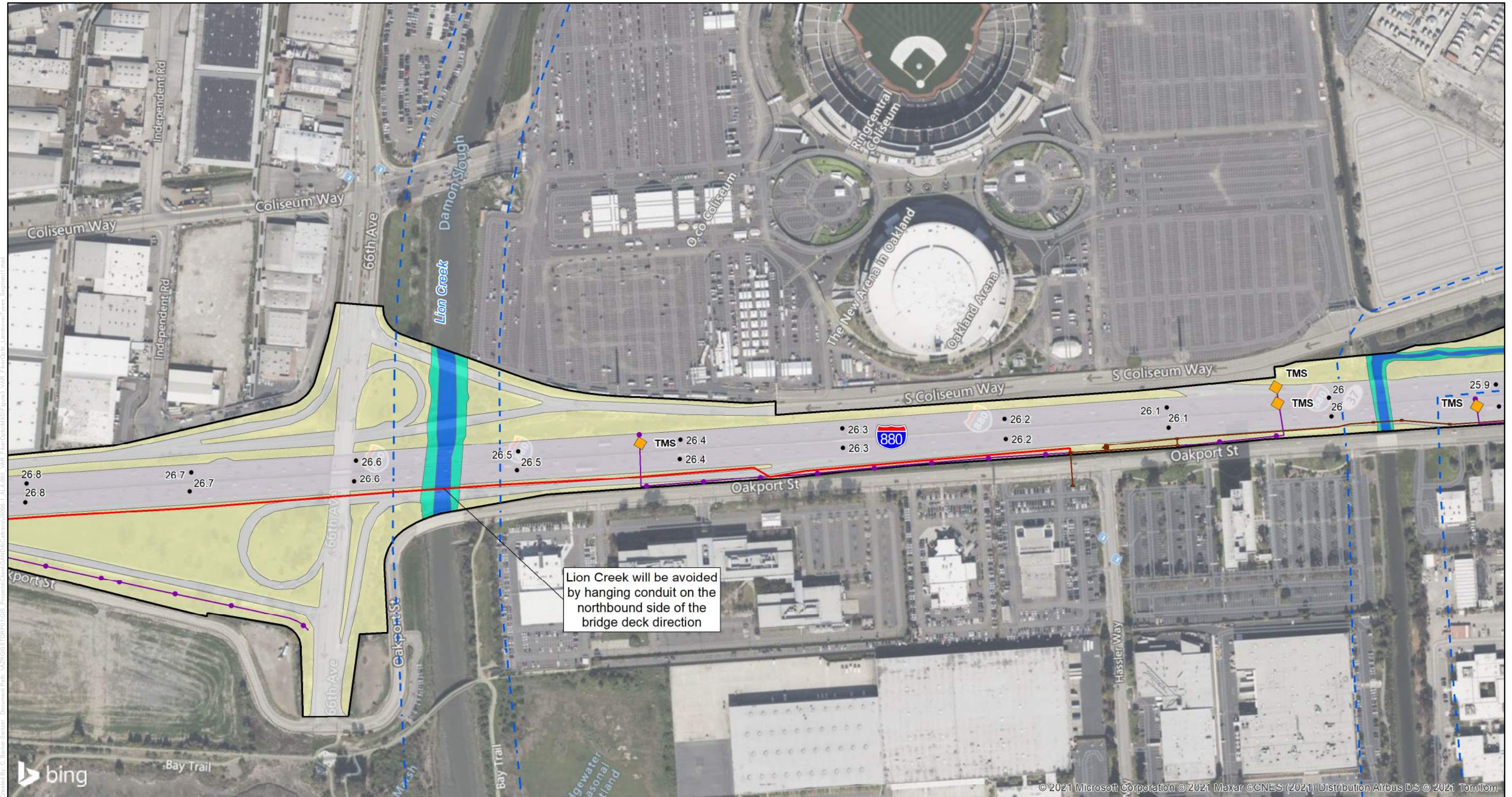
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 15 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

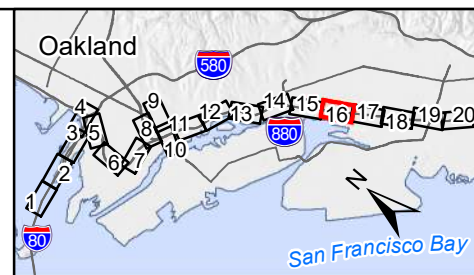
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 16 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

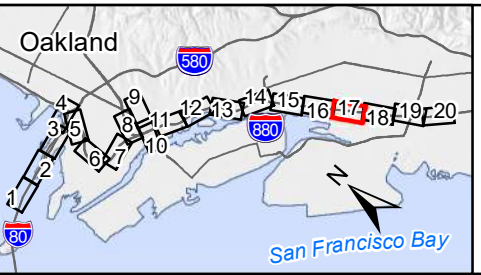
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

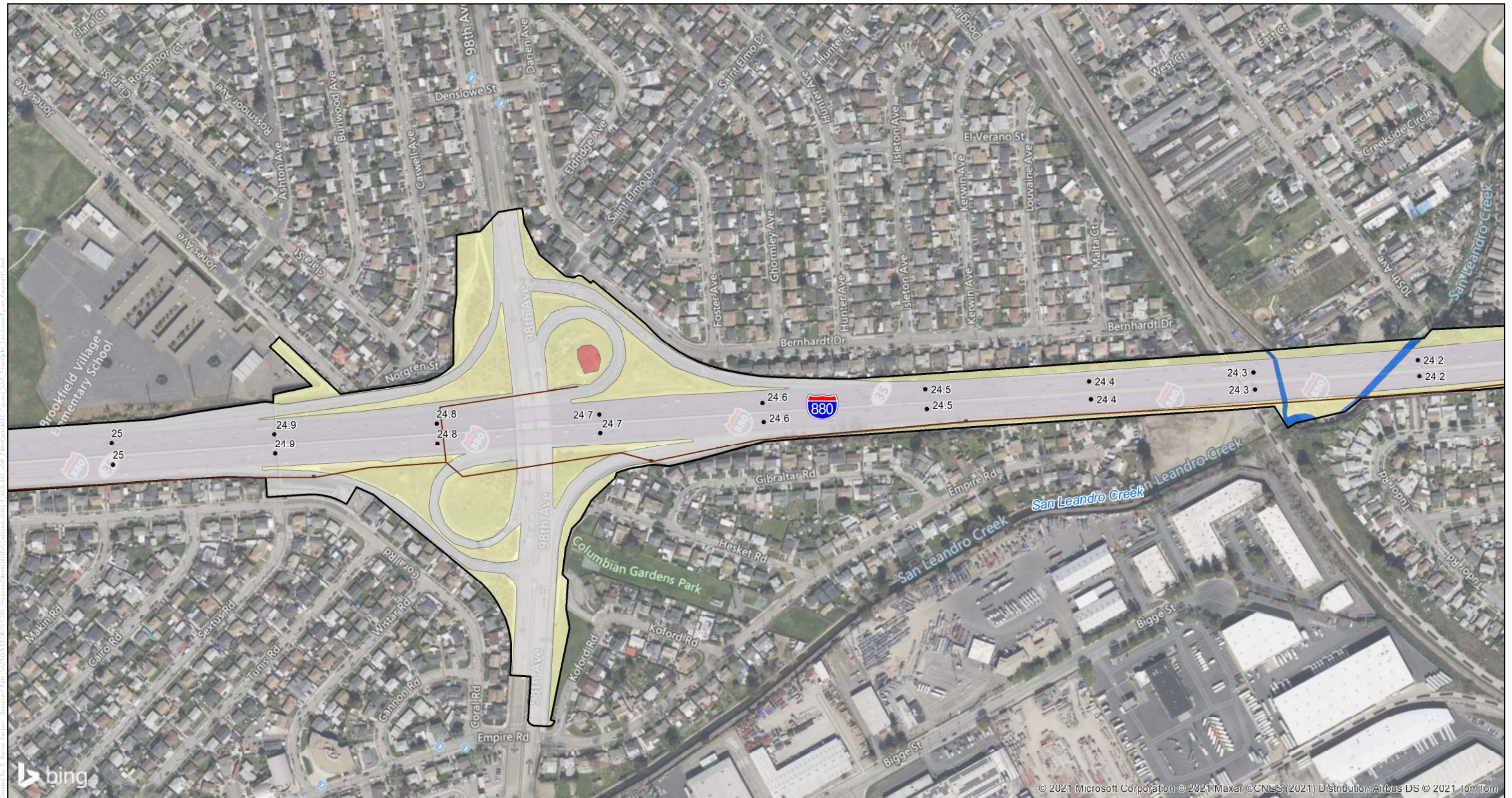
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 17 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

Freshwater Emergent Wetland

- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

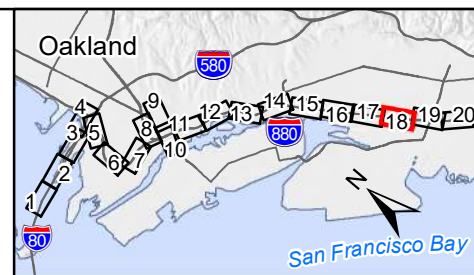
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

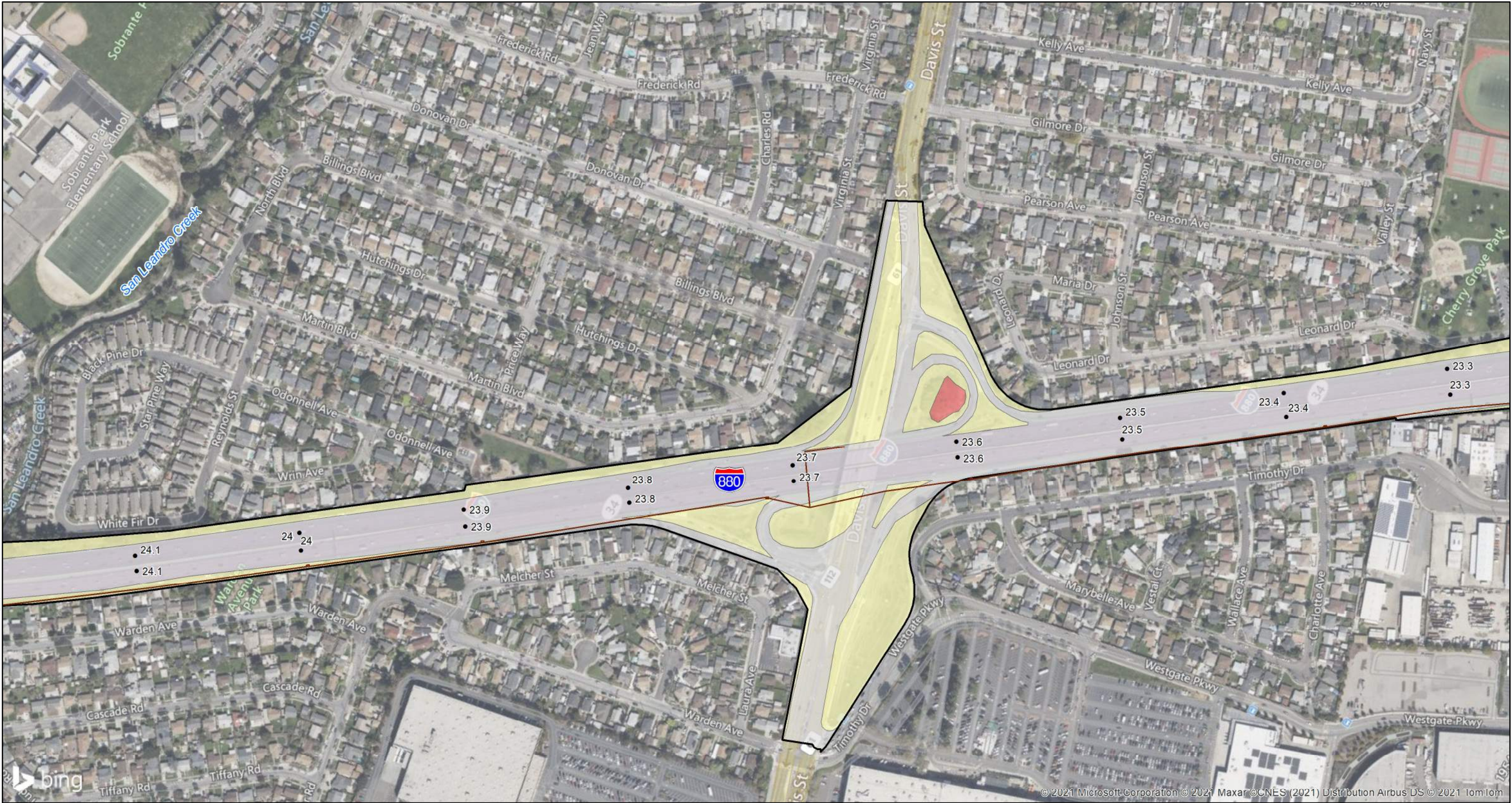
Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 18 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

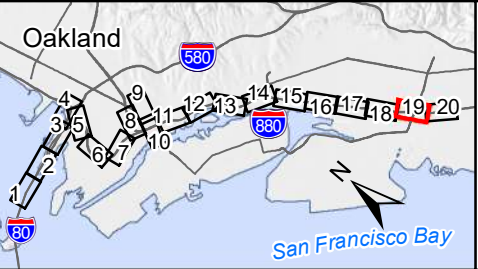
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- CCTV
- MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 19 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Basin
- Coastal Brackish Marsh
- Coyote brush scrub
- Creek
- Ephemeral Channel

- Freshwater Emergent Wetland
- Open Water
- Palustrine Emergent Wetland
- Railroad
- Road
- Urban/Landscaped

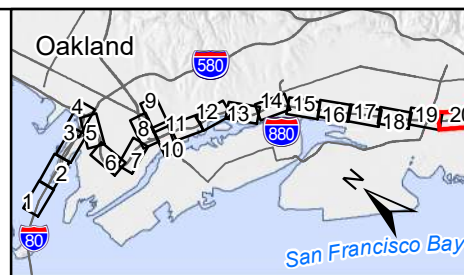
Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- Proposed TOS Electrical Service
- BCDC Jurisdiction
- Post Miles

Project Elements

- ▲ CCTV
- ◆ MVP
- RM
- TMS

Scale 1:3,600
1 Inch = 300 Feet



**Figure 3: Map 20 of 20
Habitat Mapping and Project Elements:
Segment 1, ALA-880/80
EA: 2Q740 VAR Fiber Optic
Alameda County, CA**

0 150 300
Feet





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

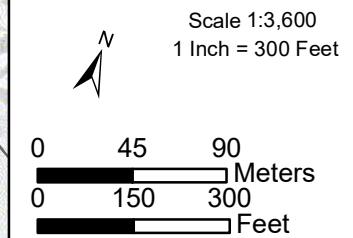
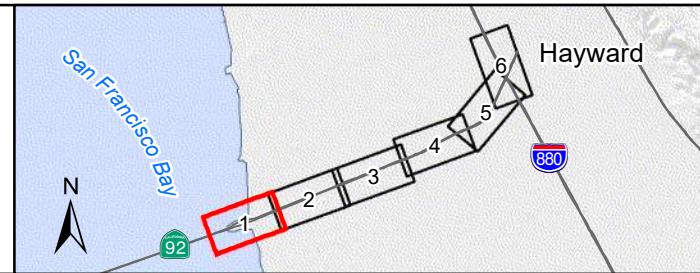


Figure 3: Map 1 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880
 EA: 2Q740
 VAR Fiber Optic
 Alameda County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

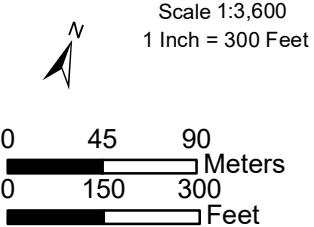
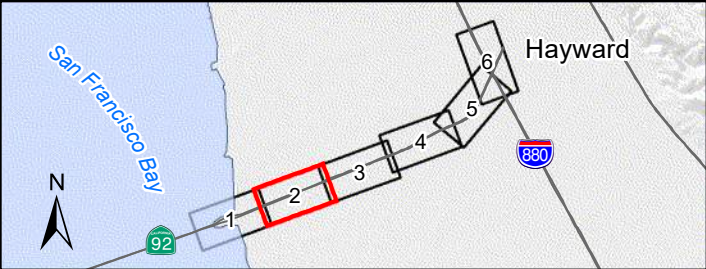



Figure 3: Map 2 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880
EA: 2Q740
VAR Fiber Optic
Alameda County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

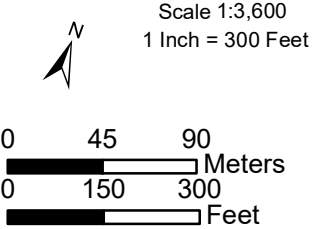
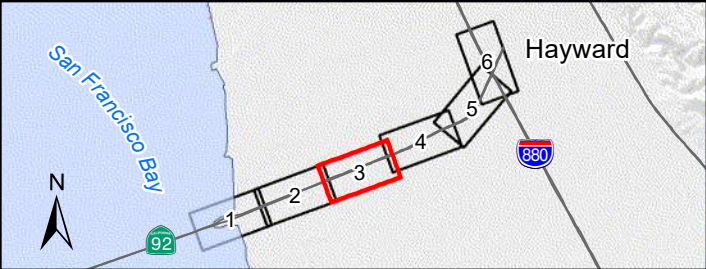
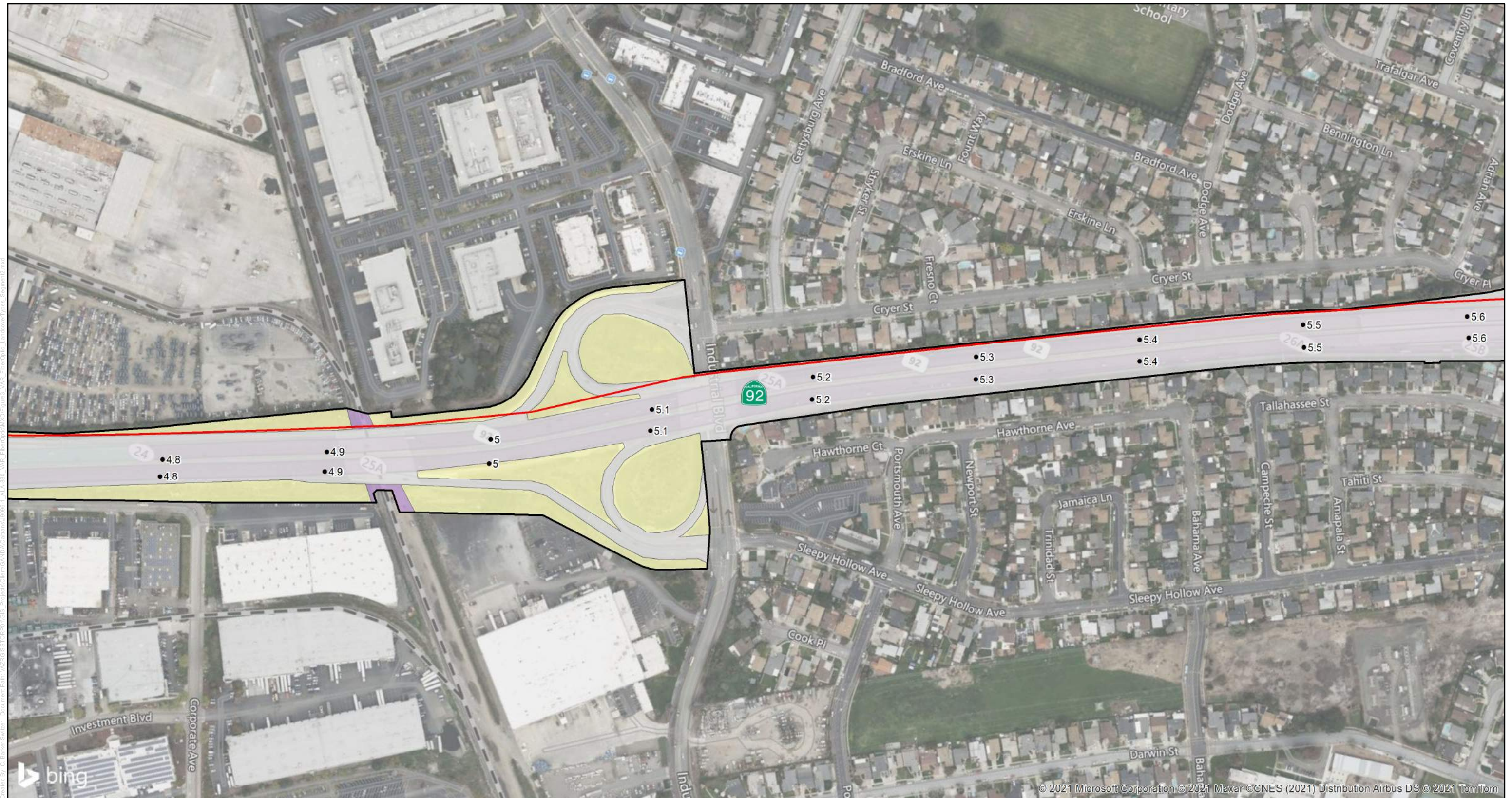


Figure 3: Map 3 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880
EA: 2Q740
VAR Fiber Optic
Alameda County, CA

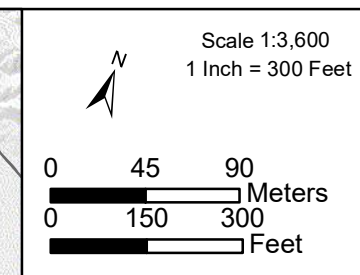
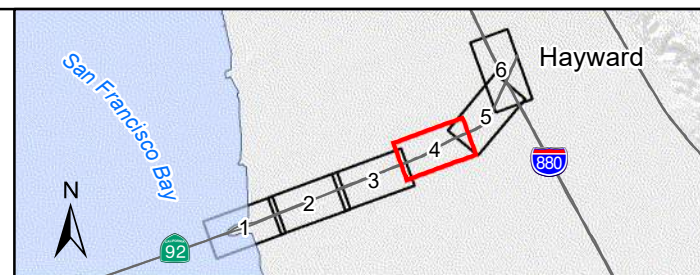




Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles



**Figure 3: Map 4 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880**
EA: 2Q740
VAR Fiber Optic
Alameda County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

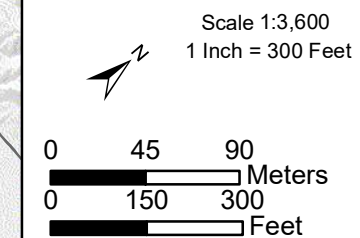
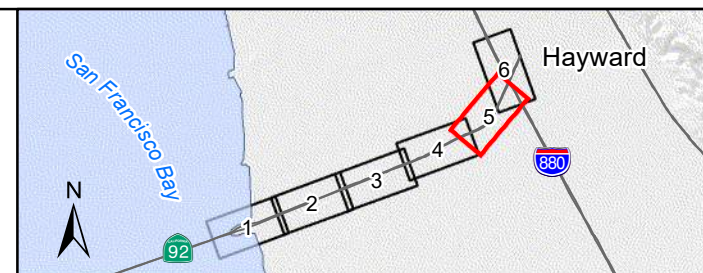


Figure 3: Map 5 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880
 EA: 2Q740
 VAR Fiber Optic
 Alameda County, CA





Vegetation/Landcover Type

- Open Water
- Railroad
- Road
- Urban/Landscaped

Biological Study Area

- Proposed Fiber Alignment
- Existing Fiber Conduit
- BCDC Jurisdiction
- Post Miles

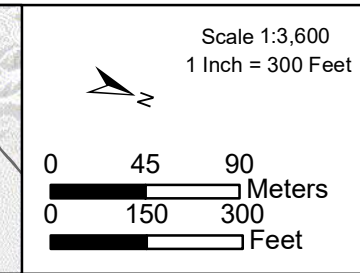
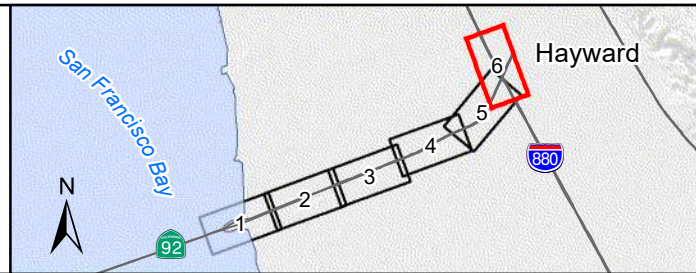
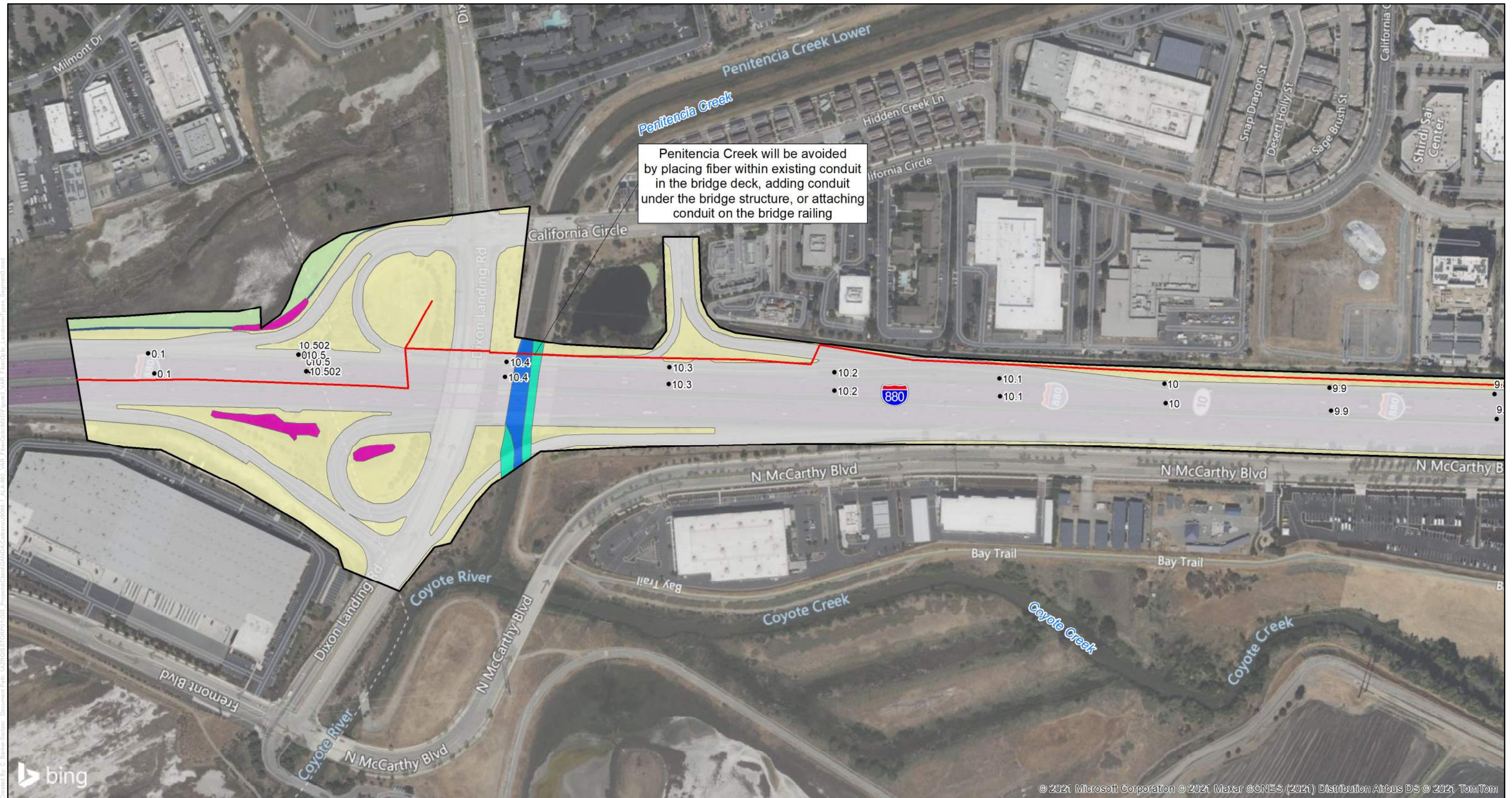


Figure 3: Map 6 of 6
Habitat Mapping and Project Elements:
Segment 2, ALA-92/880
EA: 2Q740
VAR Fiber Optic
Alameda County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

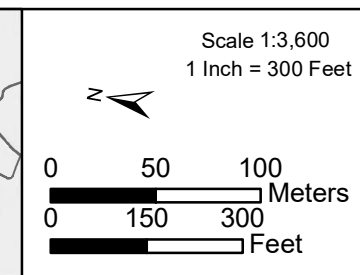
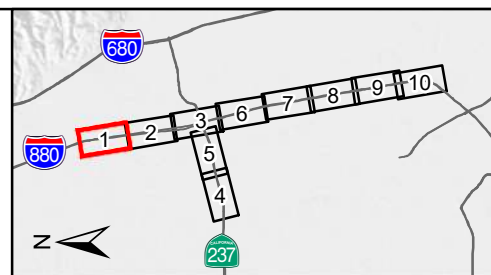
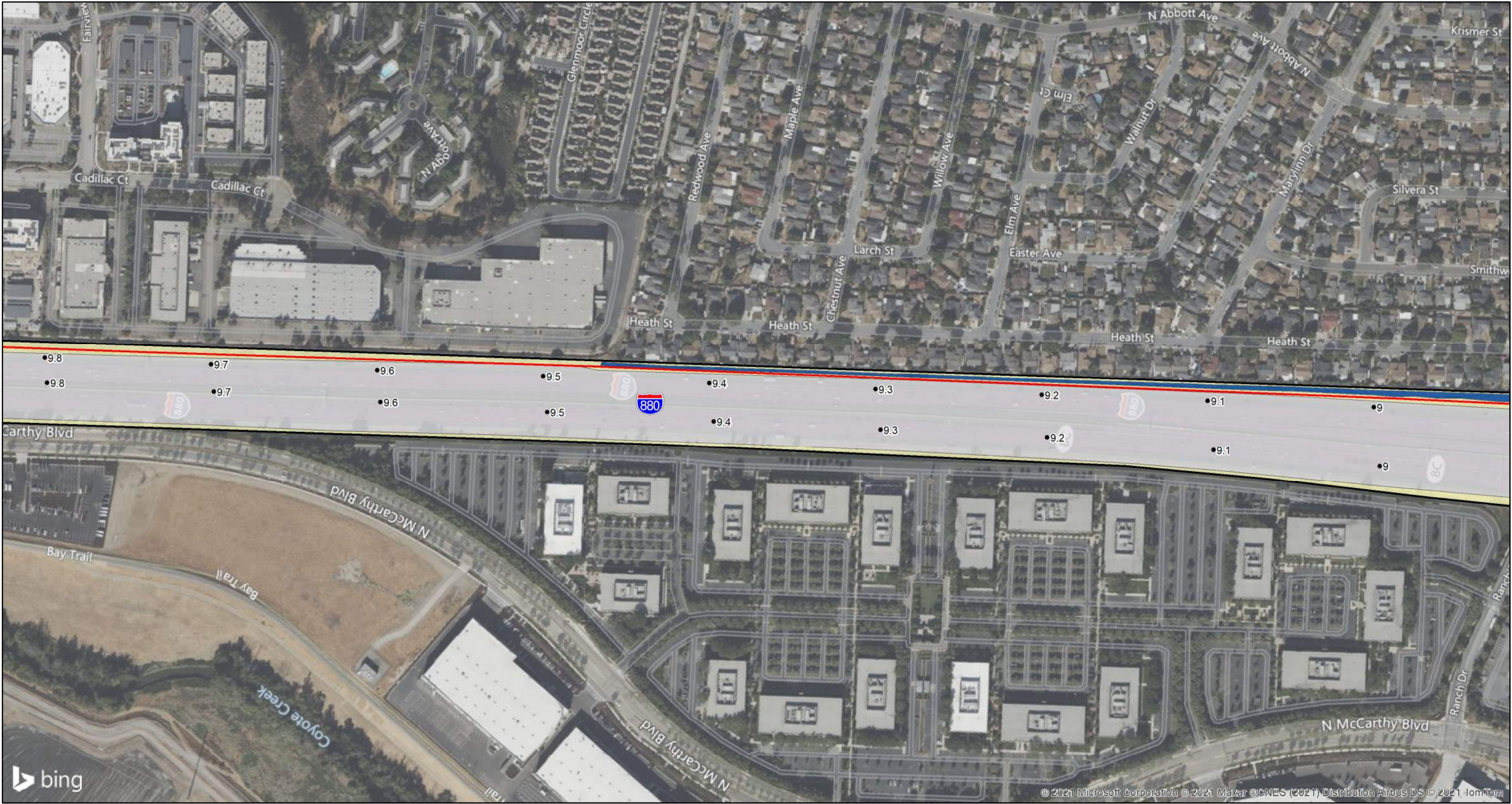


Figure 3: Map 1 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

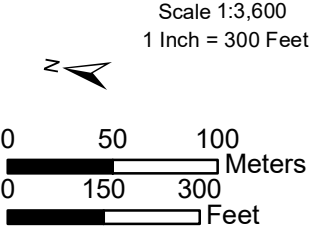
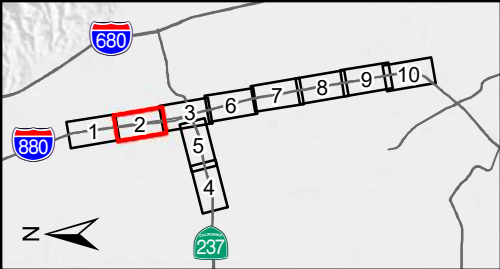


Figure 3: Map 2 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
EA: 2Q740
VAR Fiber Optic
Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

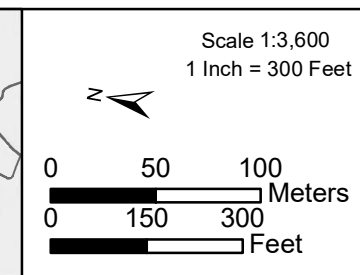
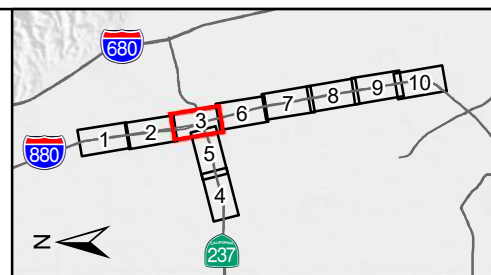


Figure 3: Map 3 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

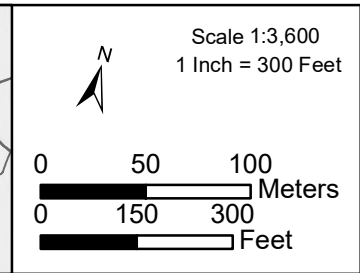
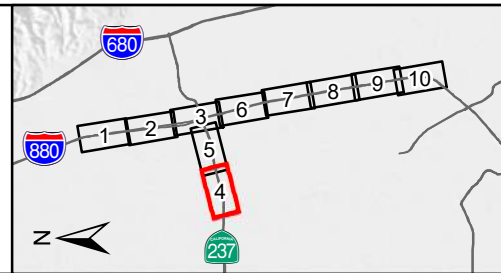


Figure 3: Map 4 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
EA: 2Q740
VAR Fiber Optic
Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

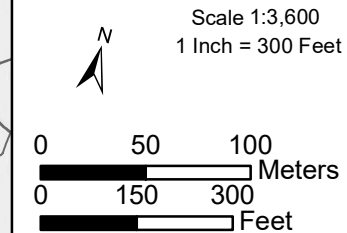
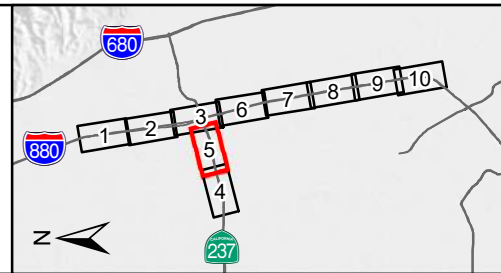


Figure 3: Map 5 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

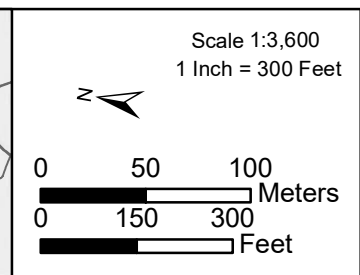
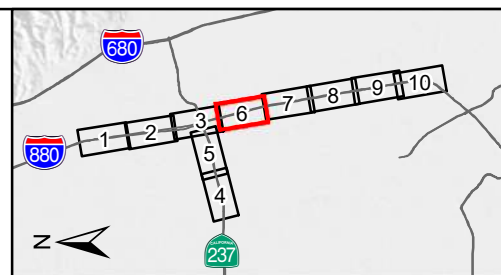


Figure 3: Map 6 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
EA: 2Q740
VAR Fiber Optic
Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

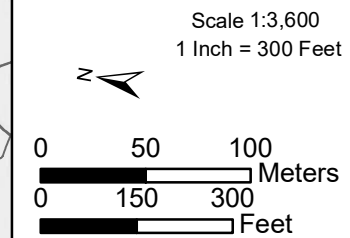
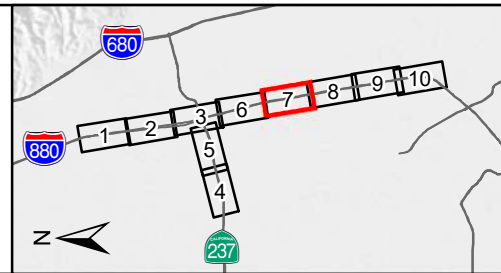


Figure 3: Map 7 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

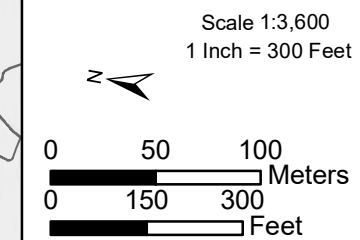
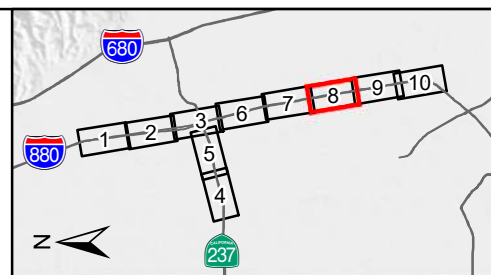
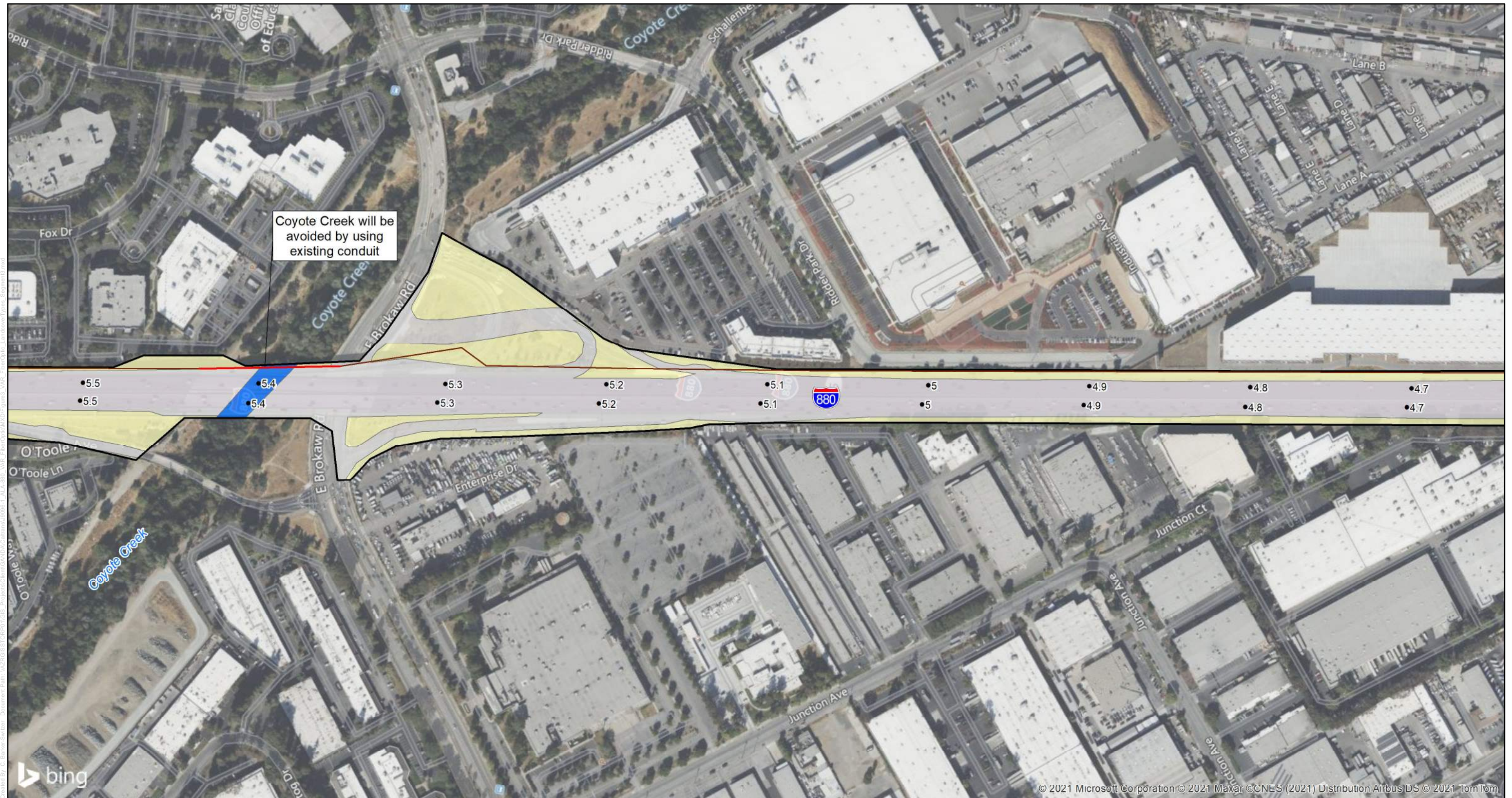


Figure 3: Map 8 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA





Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles

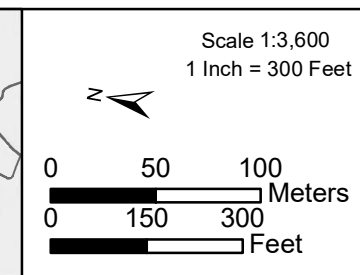
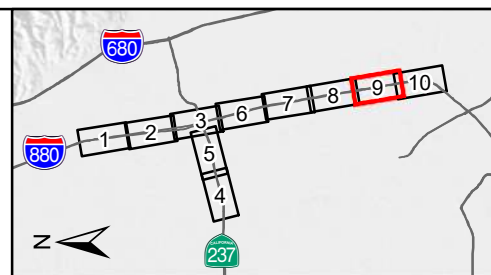
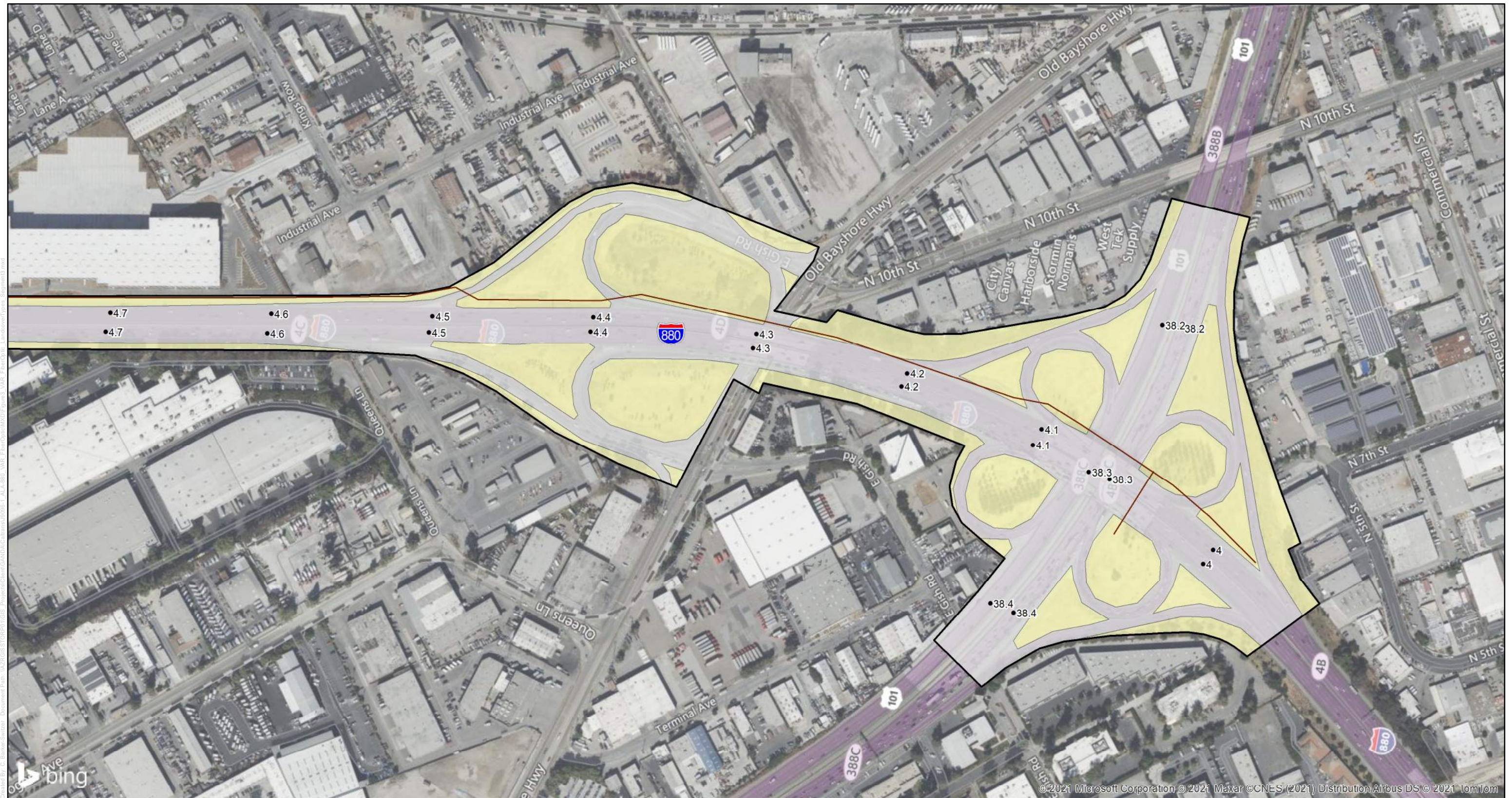


Figure 3: Map 9 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237
 EA: 2Q740
 VAR Fiber Optic
 Santa Clara County, CA



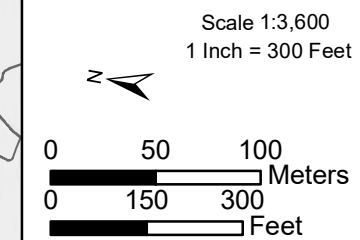
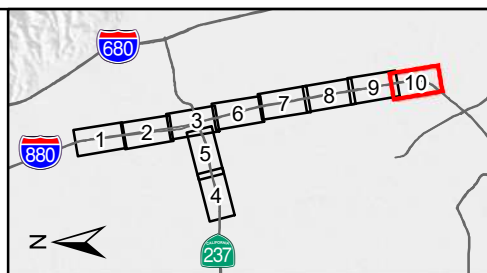


Vegetation/Landcover Type

- Annual Grassland
- Coastal Brackish Marsh
- Constructed Drainage Ditch/Channel

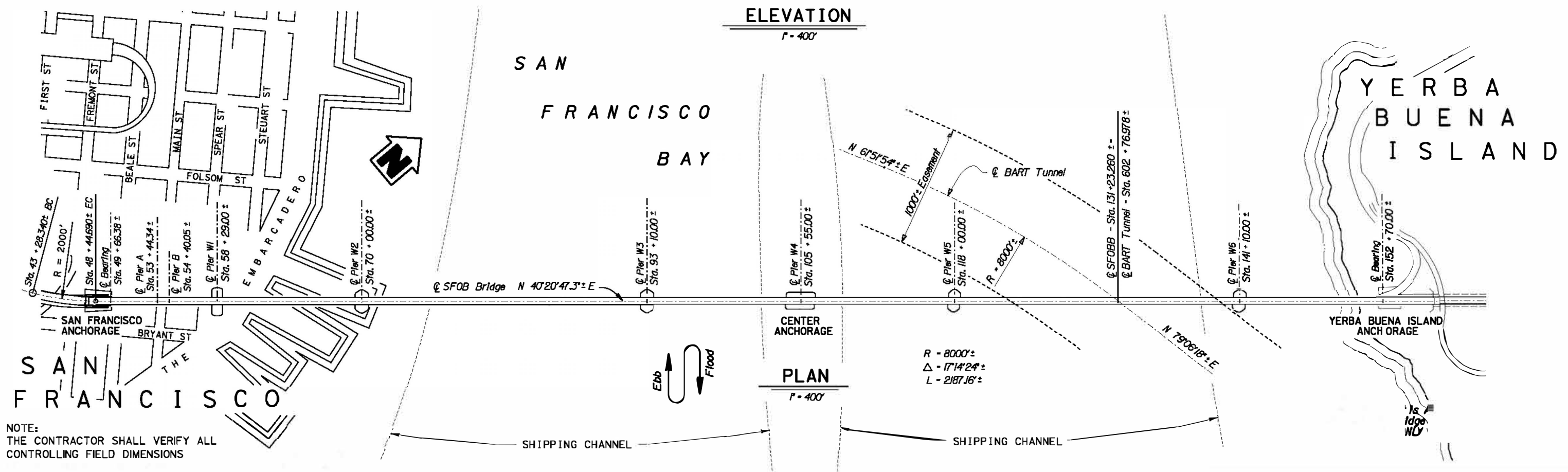
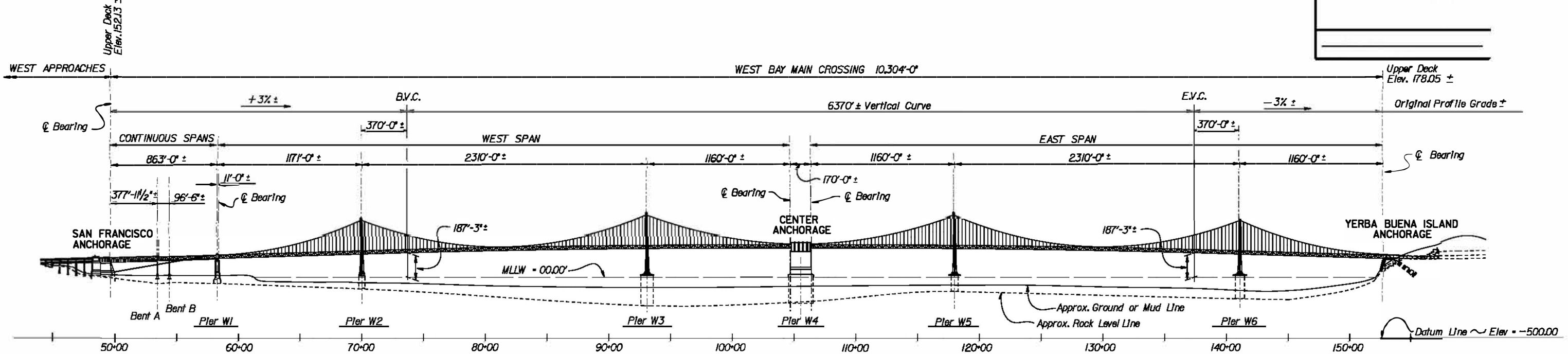
- Creek
- Freshwater Emergent Wetland
- Road
- Urban/Landscaped

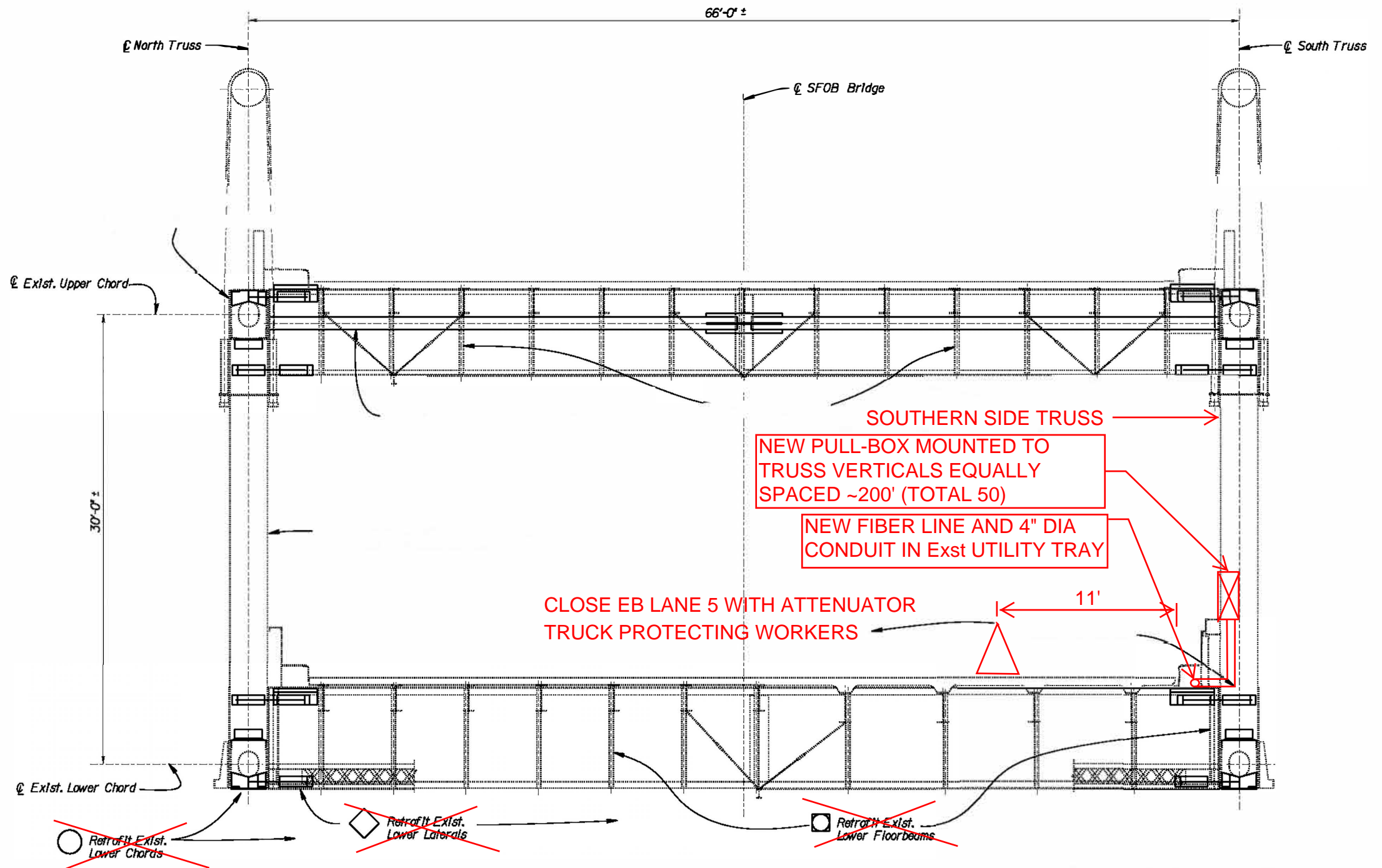
- Biological Study Area
- Proposed Fiber Alignment
- Existing Fiber Conduit
- Post Miles



**Figure 3: Map 10 of 10
Habitat Mapping and Project Elements:
Segment 3, SC-880/237**
EA: 2Q740
VAR Fiber Optic
Santa Clara County, CA





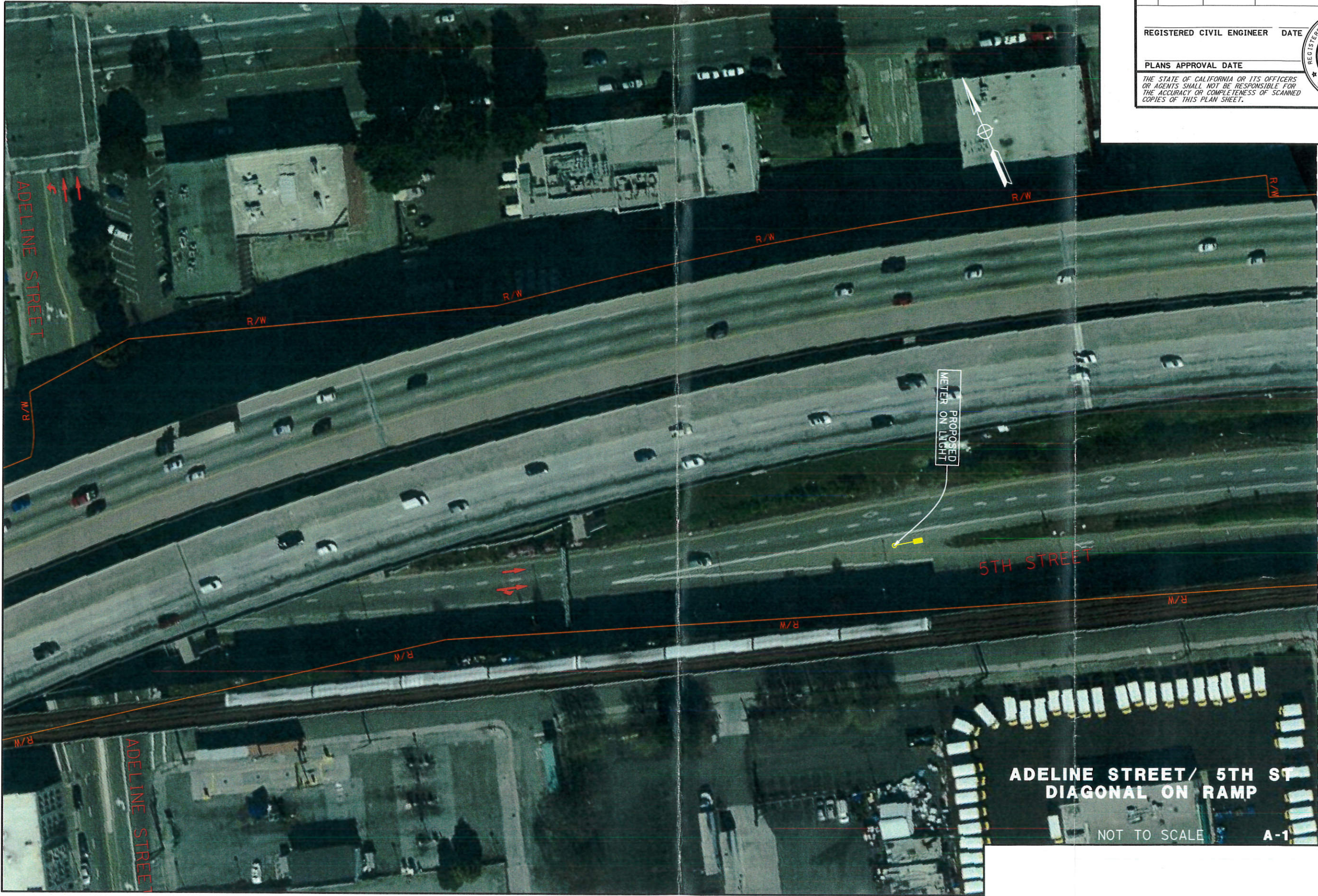


TYPICAL SECTION — SUSPENSION SPANS

1/4" = 1'-0"

Attachment C

Preliminary Ramp-Metering Layouts



Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	I 880			

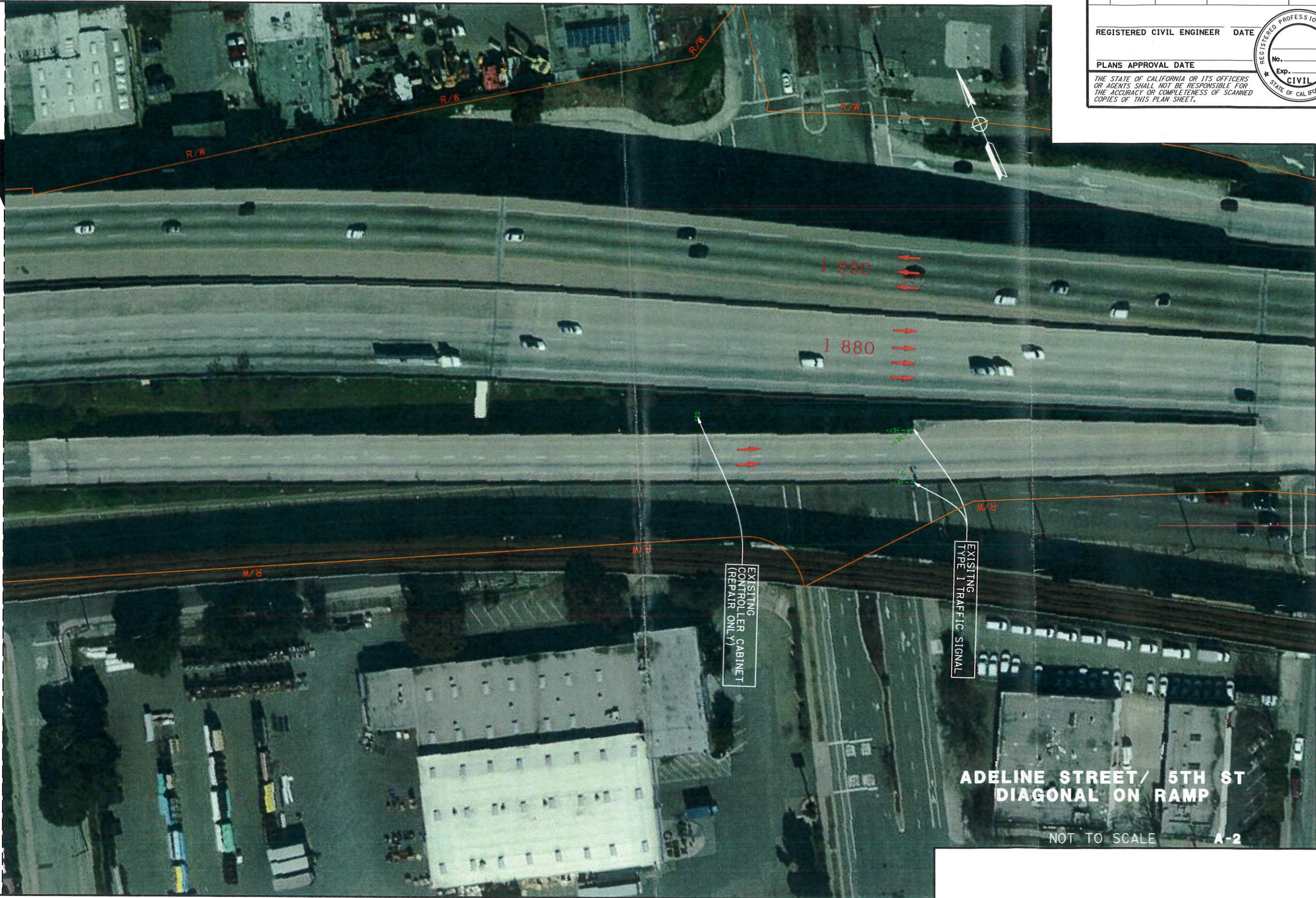
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. _____
Exp. _____
CIVIL
STATE OF CALIFORNIA

MATCH LINE SEE SHEET A-1



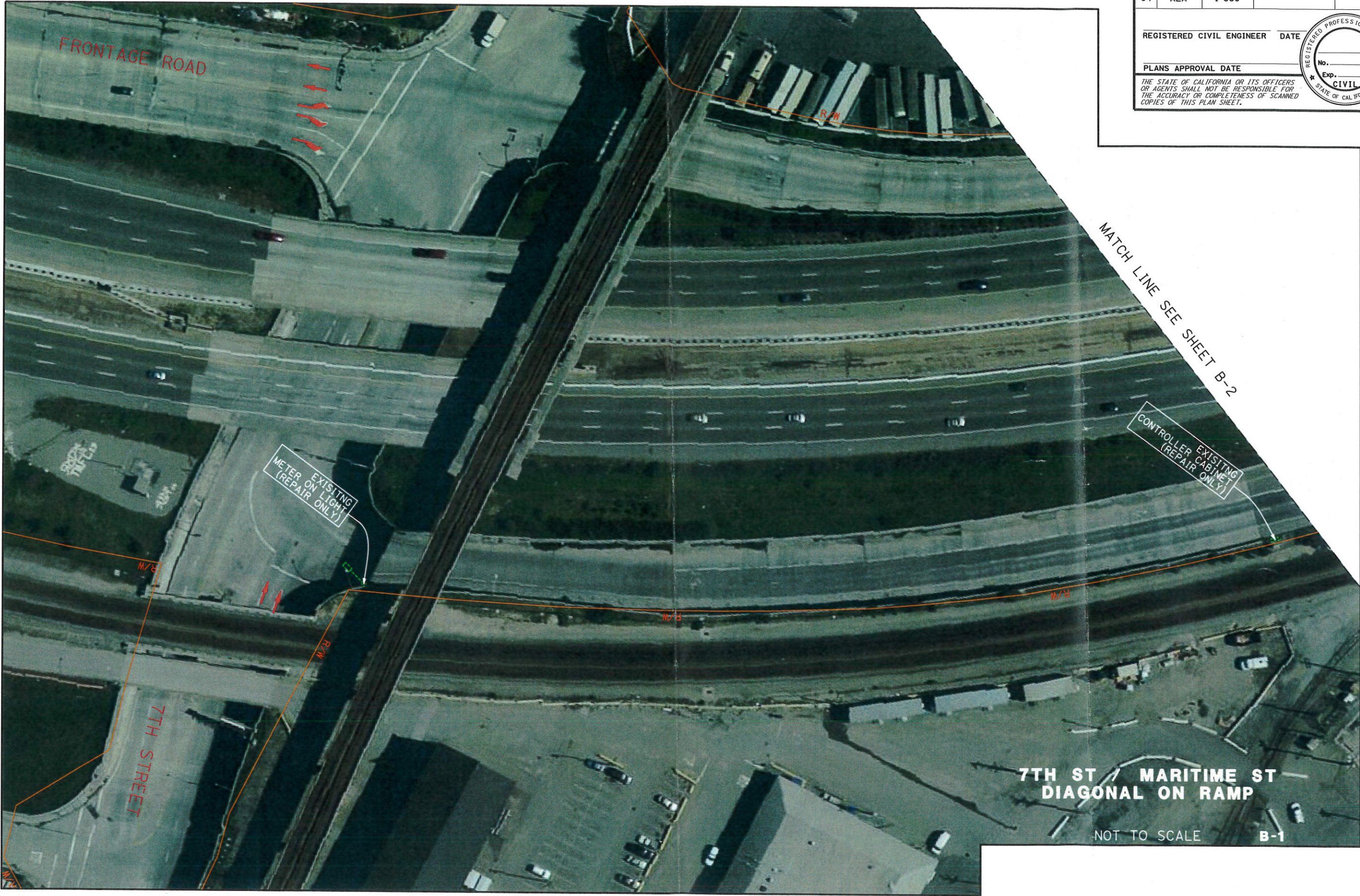
Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	I 880			

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. Exp. CIVIL
STATE OF CALIFORNIA



DIST	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	I 880			

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No. Exp. CIVIL
STATE OF CALIFORNIA

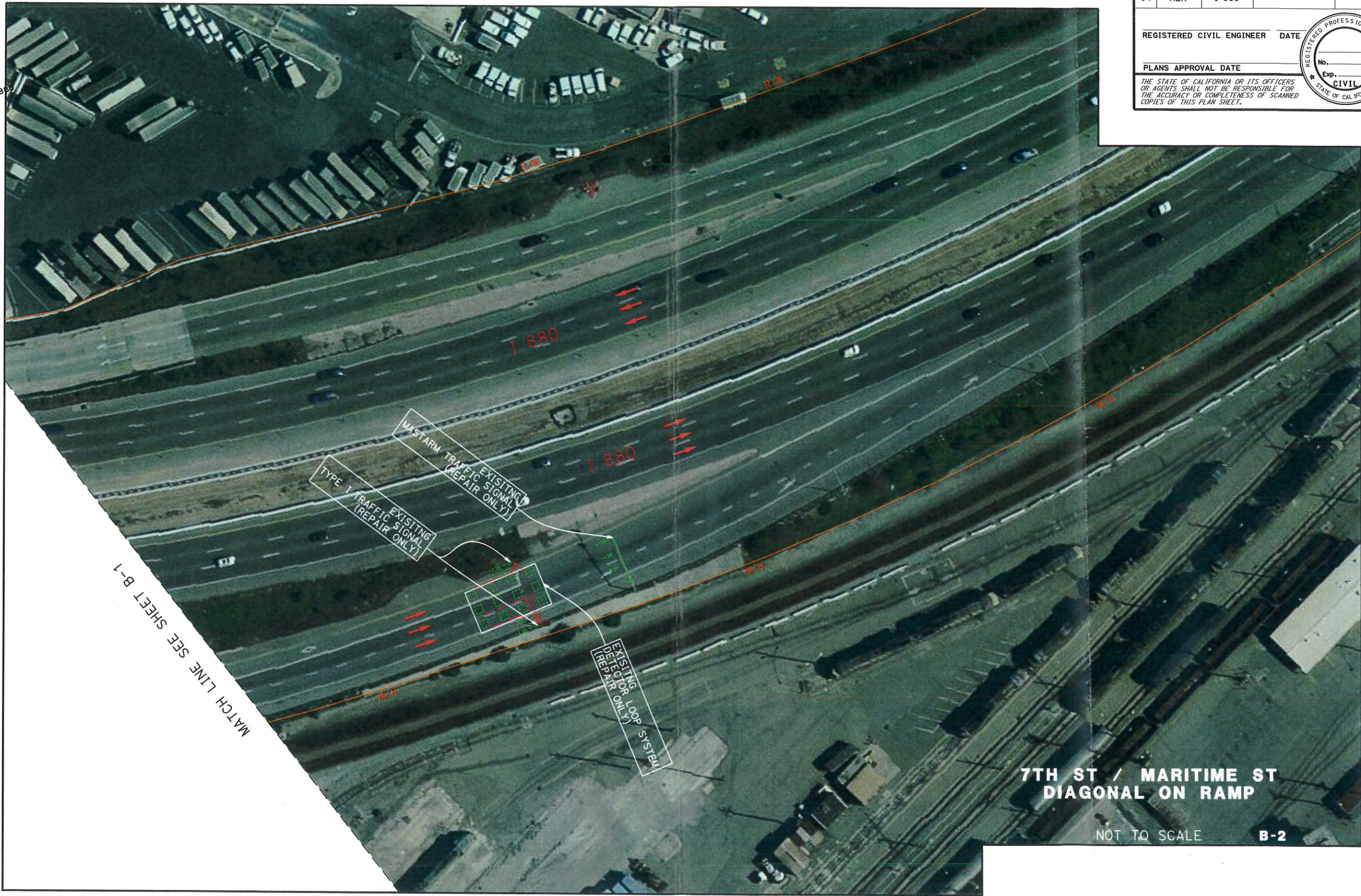
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04	ALA	I 880			

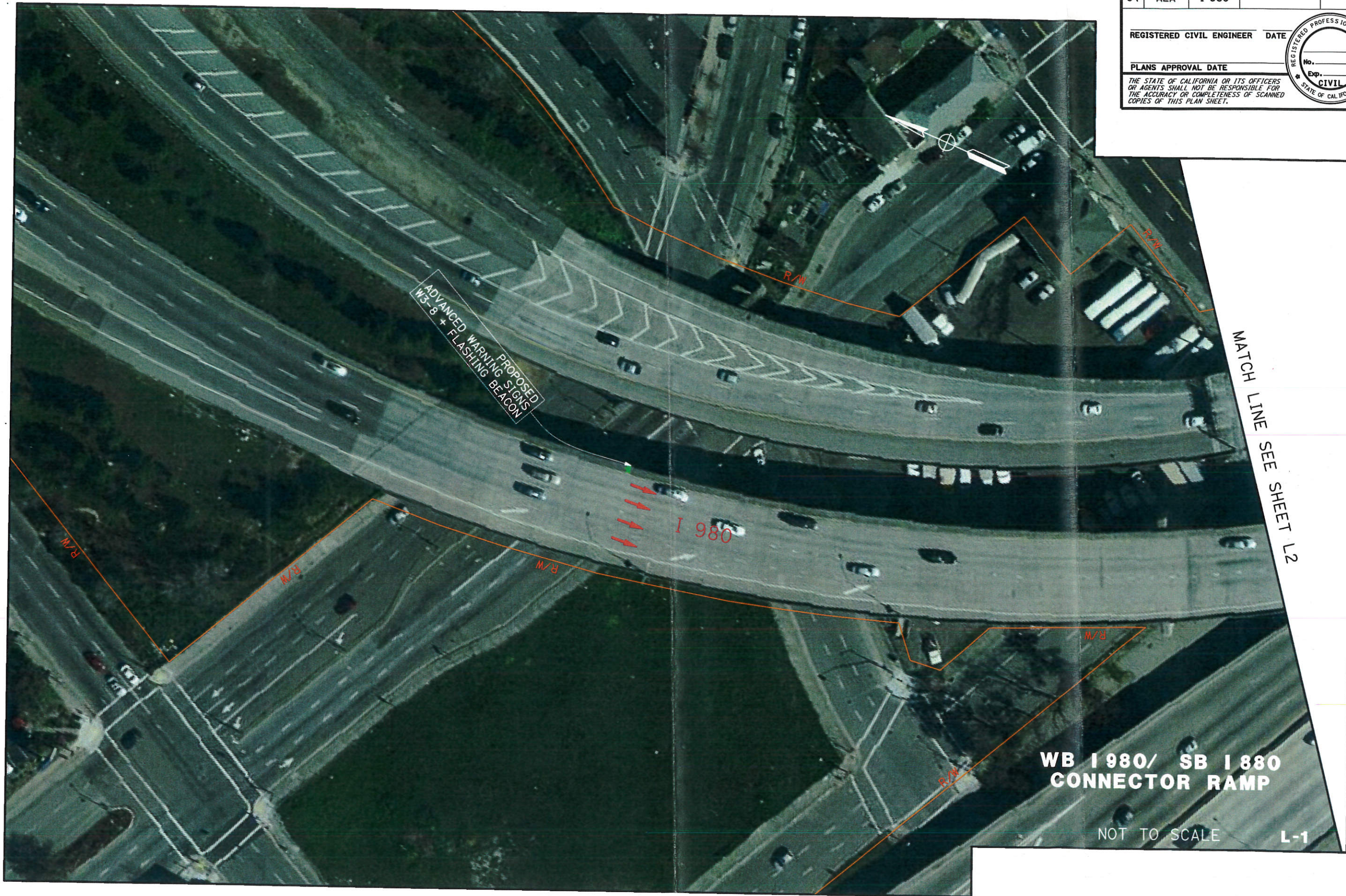
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA





DIST	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	I 980			

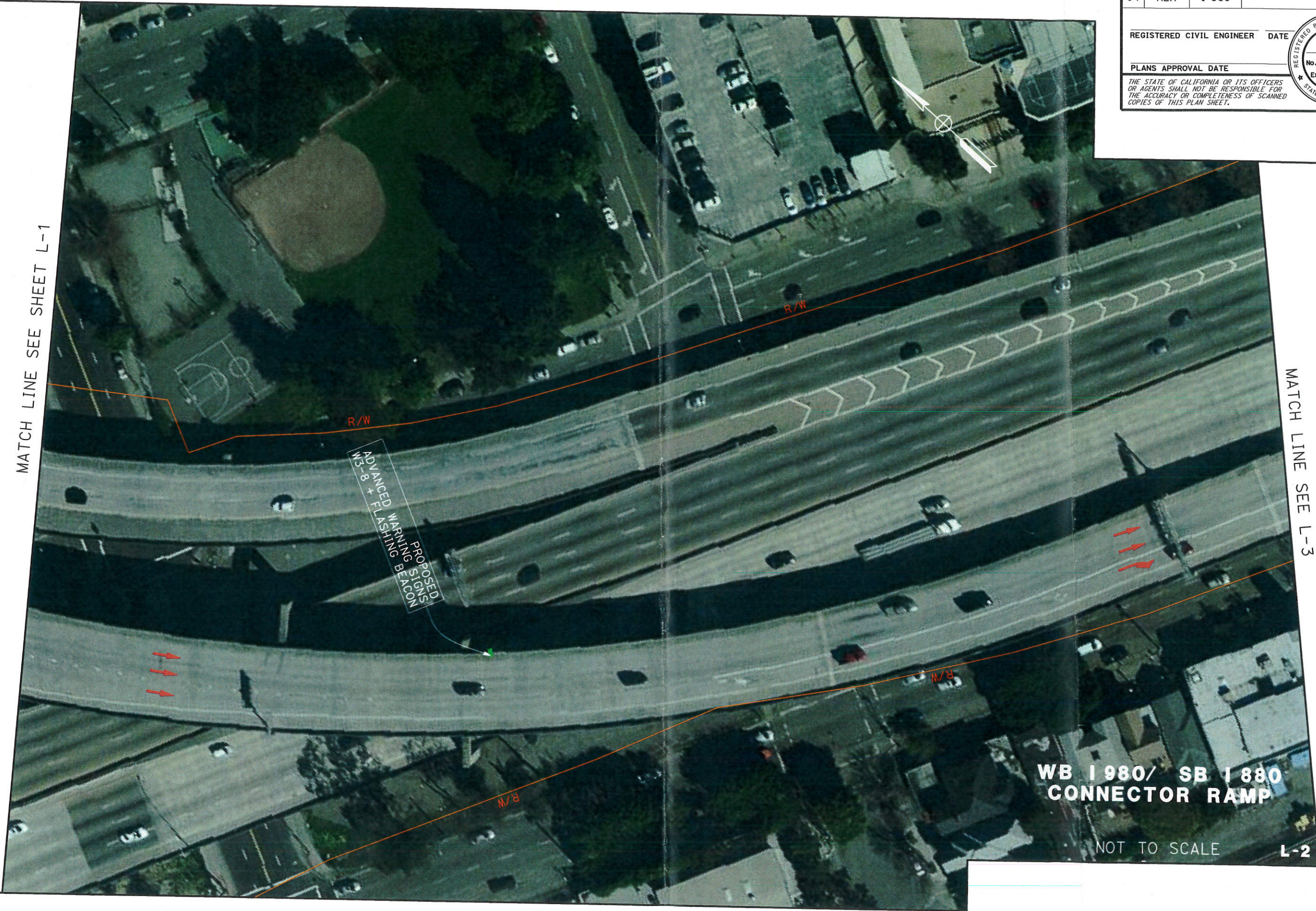
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

MATCH LINE SEE SHEET L-1



WB I 980 / SB I 880
CONNECTOR RAMP

NOT TO SCALE

L-2

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	ALA	I 980			

REGISTERED CIVIL ENGINEER DATE

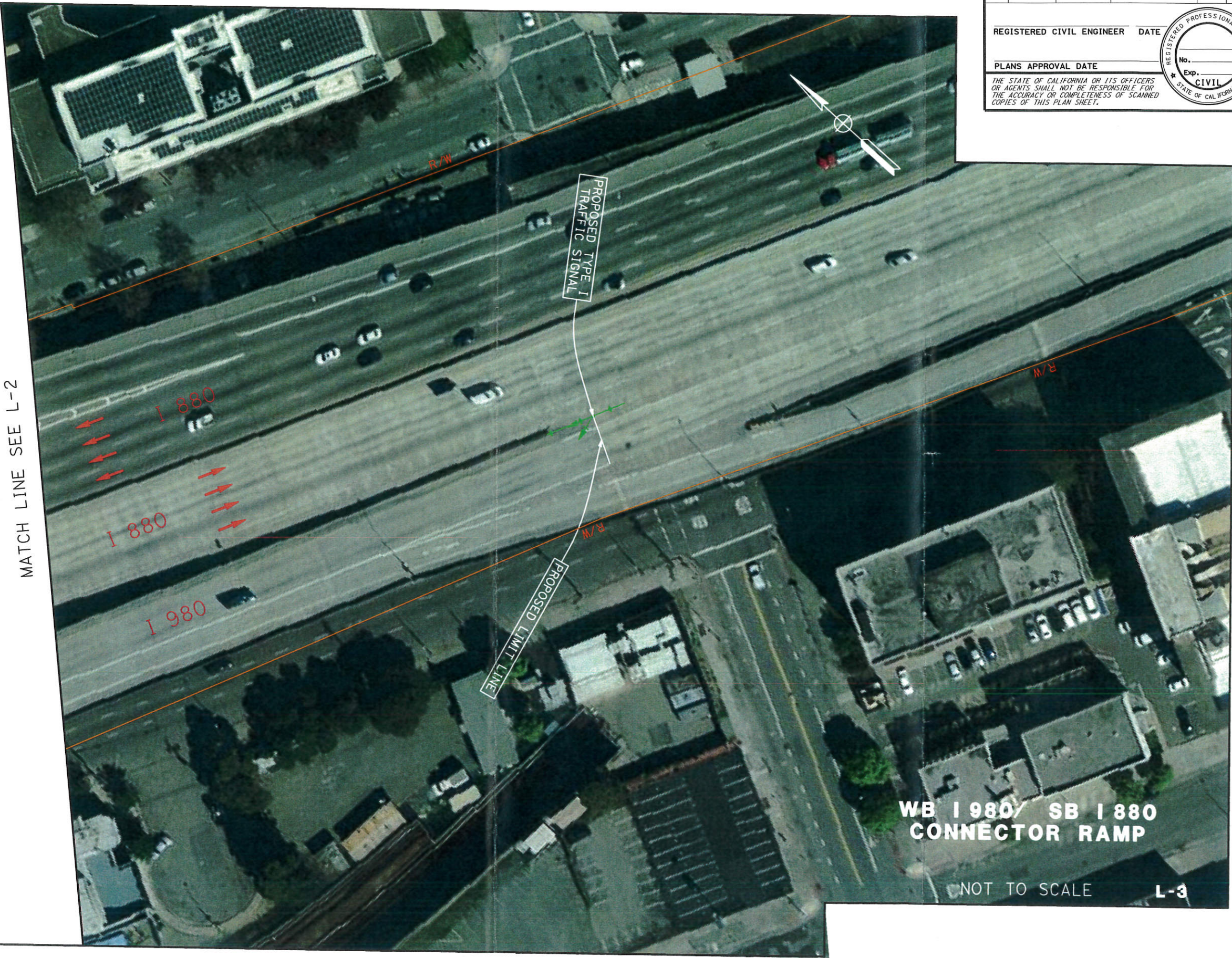
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

MATCH LINE SEE L-3

MATCH LINE SEE L-2



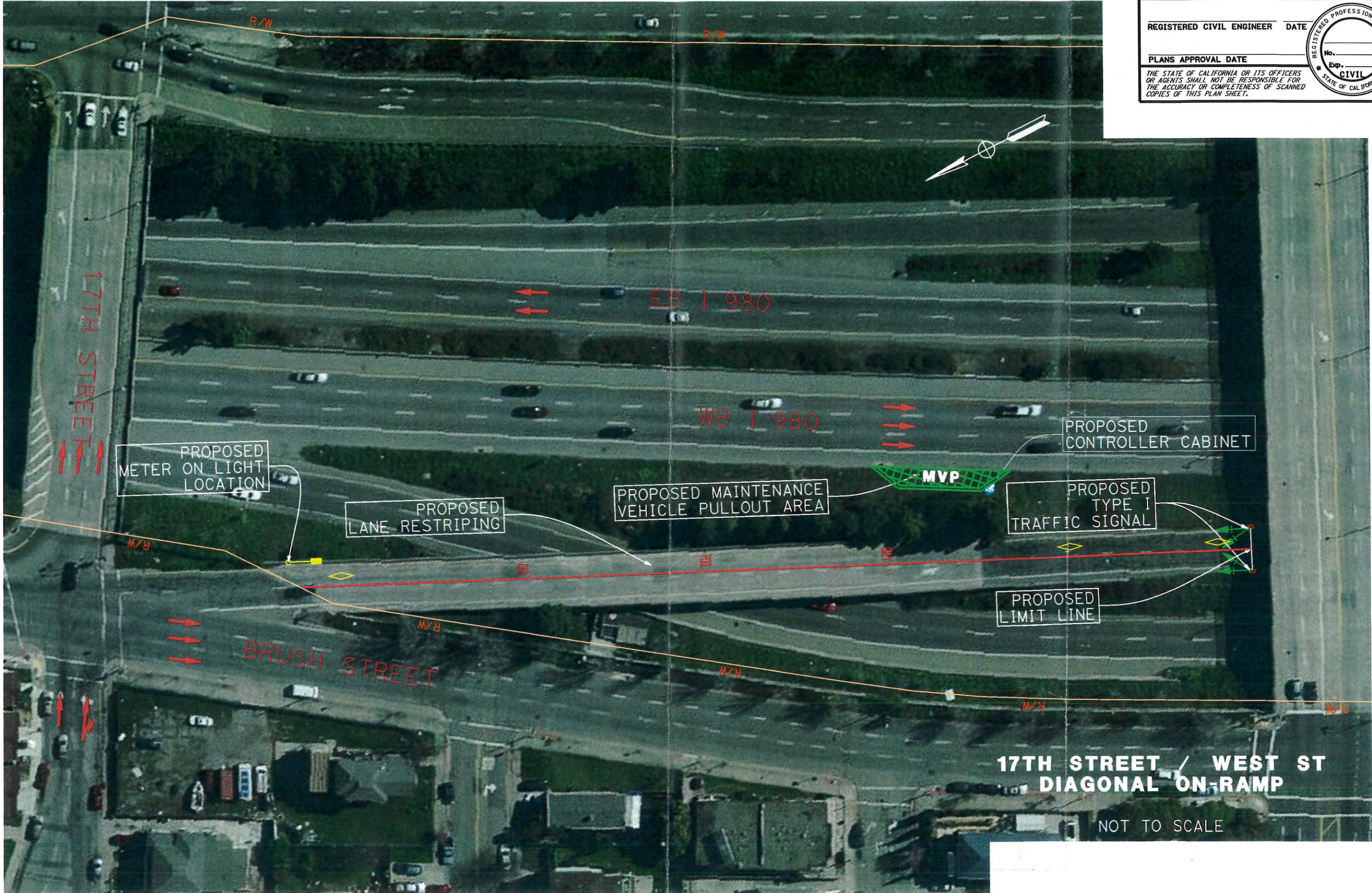
WB I 980 / SB I 880
CONNECTOR RAMP

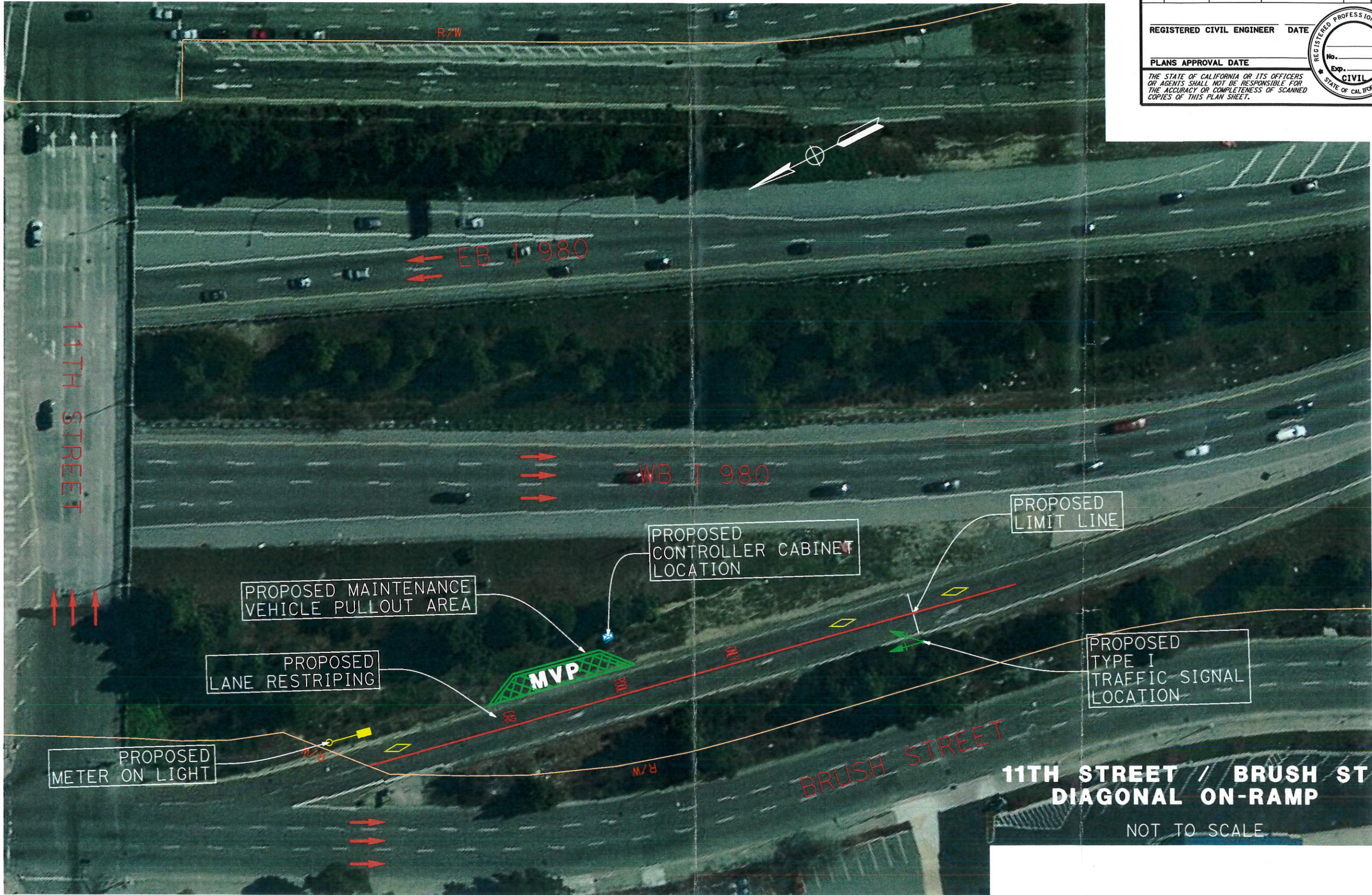
NOT TO SCALE

L-3

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	ALA	I 980			
REGISTERED CIVIL ENGINEER			DATE		
PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA





Attachment D

Right of Way Data Sheet

TO: Office of Special Projects

Date August 25, 2022
Dist 04 Co ALA, SF, SM, SCL
Rte Var PM Var
EA 2Q740 (04-1900-0044)
Install Traffic Management Systems

Attention: PETER AGUILERA
Senior Transportation Engineer
Office Of Special Projects

From: MONA POON
Right of Way Resource Manager

D.S. #7364

Subject: Current Estimated Right of Way Costs

We have completed an estimate of the right of way costs for the above referenced project based on maps we received from you on May 5, 2021 and the following assumptions and limiting conditions.

- ☐ 1. The mapping did not provide sufficient detail to determine the limits of the right of way required.
- ☐ 2. The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project.
- ☐ 3. Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the early design requirements.
- ☐ 4. This estimate does not include \$ _____ right of way costs previously incurred on the project, which may affect the total project right of way costs for programming purposes.
- ☐ 5. We have determined there are no right of way functional involvements in the proposed project at this time, as designed.

Right of Way Lead Time will require a minimum of 18 months after we begin receiving final right of way requirements (PYPSCAN node No. 224), necessary environmental clearance has been obtained, and freeway agreements have been approved. From the date of receipt of final right of way requirements (PYPSCAN node No. 265), we will require a minimum of 15 months prior to the date of certification of the project. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed. Either of these actions may reflect adversely on the District's other programs or our public image generally.



Right of Way Resource Manager

Attachments:

- ☐ Right of Way Data Sheet – Page One (always required)
- ☐ Right of Way Data Sheet – All Pages (required when interest in real property is being acquired)
- ☐ Utility Information Sheet
- ☐ Railroad Information Sheet

RIGHT OF WAY DATA SHEET

TO: Office of Special Projects Date 7/12/2022 D.S. # 7364
Dist. 04 Co. Var Rte Var PM Var
EA 2Q7400(0419000044)
ATTN: Peter Aguilera Project Description: Install Traffic Management Systems
Senior Transportation Engineer

SUBJECT: Right of Way Data - Alternate No. _____

1. Right of Way Cost Estimate:

	Current Value (Future Use)	Escalation Rate	Escalated Value
A. Acquisition, including Excess Lands, Damages, and Goodwill	<u>\$0.00</u>	%	<u>\$0.00</u>
Environmental Mitigation			<u>\$0.00</u>
Grantor's Appraisal Cost			<u>\$0.00</u>
B. Utility Relocation (State Share)	<u>\$200,000.00</u>	%	<u>\$200,000.00</u>
C. Railroad (from page 6)			<u>\$118,540.00</u>
D. Relocation Assistance	<u>\$0.00</u>	%	<u>\$0.00</u>
E. Clearance Demolition	<u>\$0.00</u>	%	<u>\$0.00</u>
F. Title and Escrow Fees	<u>\$0.00</u>	%	<u>\$0.00</u>
G. <u>TOTAL ESCALATED VALUE</u>			<u>\$318,540.00</u>
H. Construction Contract Work	<u>\$0.00</u>		
I. Railroad Phase 4 Costs	<u>\$112,000.00</u>		

2. Anticipated Date of Right of Way Certification _____

3. Parcel Data:

Type	Dual/Appr	Utilities	RR Involvements	
X <u>2</u>		U4-1	None	
A <u>2</u>		-2	C&M Agrmt	
B		-3	R/W Agrmt	<u>X</u>
C		-4	Design	<u>X</u>
D		U5-7 <u>20+</u>	Const.	<u>X</u>
E <u>XXXX</u>		-8	Lic/RE/Clauses	
F <u>XXXX</u>		-9		
Total <u>2</u>				
Areas: Right of Way _____				
Enter PMCS Screens _____				
No. Excess Parcels _____				
By _____				
Excess _____				

Misc R/W Work

RAP Displ	<u>0</u>
Clear Demo	<u>0</u>
Const. Permits	<u>1</u>
Condemnation	<u>0</u>

4. Are there any major items of construction contract work?
Yes ☐ No ☒ (If yes, explain)
5. Provide a general description of the right of way and excess lands required(zoning, use, major improvements critical or sensitive parcels, etc.).
No right of way required. ☒
2 PTE&C's from City of Oakland and City of Alameda. City of Oakland will require a Utility Excavation Permit (Phase 4 dollars).
6. Is there an effect on assessed valuation? (If yes explain)
Yes ☐ Not Significant ☐ No ☒
7. Are utility facilities or rights of way affected? Yes ☒ No ☐
If yes, attach Utility Information Sheet Exhibit 01-01-05)
8. Are railroad facilities or rights of way affected? Yes ☒ No ☐
If yes, attach Railroad Information Sheet Exhibit 01-01-06)
9. Were any previously unidentified sites with hazardous waste and/or material found?
Yes ☐ None evident ☒
(If yes, attach memorandum per Procedural Handbook Volume 1, Section 101.011)
10. Are RAP displacements required? Yes ☐ No ☒
(If yes, provide the following information)
- No. of personal property relocations _____
- No. of single family _____ No. of business/non profit _____
- No. of multi-family _____ No. of farms _____
- Based on Draft / Final Relocation Impact Statement / Study dated_____, it is anticipated that sufficient replacement housing will / will not be available without Last Resort Housing.
11. Are material borrow and / or disposal sites required? Yes ☐ No ☒
(If yes, explain)
12. Are there potential relinquishments / abandonments? Yes ☐ No ☒
(If yes, explain)
13. Are there any existing and/or potential Airspace sites? Yes ☐ No ☒
(If yes, explain)

14. Are there Environmental Mitigation costs? Yes ☐ No ☒
(If yes, explain)
15. Indicate the anticipated Right of Way schedule and lead time requirements. (Discuss if District proposes less than PMCS lead time and / or if significant pressures for project advancement are anticipated.)

PYPSCAN lead time (from Regular R/W to project certification) 18 months.

16. Is it anticipated that all Right of Way work be performed by CALTRANS staff?
Yes ☒ No ☐ (If no, discuss)

Assumptions and Limiting Conditions

- This data sheet was completed without a hazardous waste/materials report.
- Information on this data sheet was based on maps provided by Peter Aguilera on 5/5/2021

Evaluation Prepared By: Lynn White

Right of Way: Name Sam Melloy Date 7/14/2022

Railroad: Name Alden Chalk Date 06/24/2022

Utilities: Name Johnny Young Date 02.14.22

Recommended for Approval:



Right of Way Capital Cost Coordinator

I have personally reviewed this Right of Way Data Sheet and all supporting information. It is my opinion that the probable Highest and Best Use, estimated values, escalation rates, and assumptions are reasonable and proper subject to the limiting conditions set fourth, and find this Data Sheet complete and current.



Chief, R/W Appraisal Services

07/14/2022

Date

cc: Program Manager
Project Manger

UTILITY INFORMATION SHEET

1. Utility owners located within project limits:
PG&E, AT&T, Comcast, Verizon, SVWD, SJW, Water, Sewer, SFPUC, Kinder Morgan, Chevron, Tesoro, Shell, Valero, BP, Phillips 66, EBMUD, Zone 7.....
2. Facilities potentially impacted by project (if known, include Owners(s) & facility type(s)):
Unknown at this time.
3. Anticipated Workload:

<u> X </u>	Utility Verification required	
<u> X </u>	Positive Identification	\$200,000
<u> </u>	Utility Relocation	
<u> </u>	Other (Specify)	
4. Additional information concerning anticipated utility involvements (include limiting conditions and a narrative addressing likelihood that conflicts will occur);

_____ Involves possible relocation of electric transmission facilities
(If X'd, Data sheet should be forwarded to environmental)
Utility agreements will be required for this project due to CCW on public utility facilities for all public utility relocations and adjustments, including but not limited to, manhole cover adjustments to grade (unless determined & specified in writing by the Utility Engineering Workgroup (UEW) that none are required for this project). A minimum lead-time of 12 months from PA&ED to RWC is needed to secure the utility agreement(s) and specifications as required for the RWC and PS&E milestones. Leadtime requires that UEW provide RW Utilities with a conflict memo and maps no later than the PA&ED milestone.
5. PMCS input information

U4-1	_____	Owner Expense Involvements
U4-2	_____	State Expense Involvements (Conventional, No Fed Aid)
U4-3	_____	State Expense Involvements (Freeway, No Fed Aid)
U4-4	_____	State Expense Involvements (Conventional or Freeway, Fed Aid)
U5-7	<u> 20+ </u>	Verifications - without involvements
U5-8	_____	Verifications - 50% involvements
U5-9	_____	Verifications resulting in involvements

NOTE: The sum of U-4's must equal the sum of ½ of the U5-8's and all of the U5-9's.

ESTIMATED STATE SHARE OF COSTS \$ 200,000.00

Prepared by: Latorya Young

Latorya Young
Right of Way Utility Coordinator

02.14.22

RAILROAD INFORMATION SHEET

1. Describe railroad facilities or right of way affected.
UPRR, Muni, BNSF,
2. When branch lines or spurs are affected, would acquisition and/or payment of damages to businesses and/or industries served by the railroad facility be more cost effective than construction of a facility to perpetuate the rail services? (See Procedural Handbook Volume 4a, Chapter 440 for further detail.)
Yes ☐ No ☐ (If yes, explain)
3. Discuss types of agreements and rights required from the railroads. Are grade crossings requiring service contracts, or grade separations requiring construction and maintenance agreements involved?
Preliminary Engineering Reviews, Wireline Crossing Agreements, Flagging
4. Remarks (Nonoperating railroad right of way involved?)
Muni has not responded, so using UPRR as template.
5. PMCS Input Information

<u>RR Involvements</u>		<u>Estimated Cost</u>	
None	<u> </u>		
C&M Agreement	<u> </u>	Phase 4*	\$ 112,000.00
R/W Agreement	<u> X </u>	Phase 9	\$ 118,540.00
Design	<u> X </u>		
Const.	<u> X </u>		
Lic/RE/Clauses	<u> X </u>		

*not part of page 1 total

TOTAL ESTIMATED COST \$ 230,540.00

Prepared by: Alden Chalk

Alden Chalk
Right of Way Railroad Coordinator

06/24/2022
Date

Right of Way Workplan

Date: 8/25/22

Project ID No: 0419000044

Project Manager: M.Omran

Programmed RW Support: \$141,000

PA&ED Date or Transmittal: 8/31/22

RWC Date: 4/30/23

Prepared by: D.Mars

Please note that this estimate only contains the hours needed by RW Agents. You must also obtain an estimate from RW Engineering for a complete support cost total for the Office of Right of Way.

100.05	Start Date:
Phase K	End Date:
(Data Sheet & PID)	Hours Needed
0850 Acq/P&M O.C.	
0856 Proj. Coord.	

150	Start Date:
Phase K	End Date:
(Data Sheet & PID)	Hours Needed
0849 DDD R/W	8
0850 Acq/P&M O.C.	
0851 Appraisals O.C.	
0856 Proj. Coord.	
0859 Capital Mgmt.	
0860 Appraisals	
0867 Railroad	
0869 Utilities	

160	Start Date:
Phase O	End Date:
(Util. Verifications, RR study, PR, &/or Updated Datasheet)	Hours Needed
0849 DDD R/W	8
0850 Acq./P&M O.C.	
0856 Proj. Coord.	
0859 Capital Mgmt.	
0860 Appraisals	
0865 Acquisitions	
0867 Railroad	
0869 Utilities	0
0876 Rap	
0882 Clerical	

165	Start Date:
Phase O	End Date:
(Permits)	Hours Needed
0850 Acq./P&M O.C.	0
0856 Proj. Coord.	0
0865 Acquisitions	0
0882 Clerical	0

185	Start Date:
Phase 1	End Date:
(Updated datasheet, if needed)	Hours Needed
0850 Acq/P&M O.C.	10
0851 Appraisals O.C.	10
0856 Proj. Coord.	20
0859 Capital Mgmt.	14
0860 Appraisals	
0867 Railroad	100
0869 Utilities	20

255	Start Date:
Phase 1	End Date:
(Certification - PSE)	Hours Needed
0856 Proj. Coord.	20
0860 Appraisals	
0865 Acquisitions	5
0867 Railroad	20
0869 Utilities	5
0876 RAP	

100.25	Start Date: 8/31/2022
Phase 2	End Date: 4/30/2024
(Project Mgmt)	Hours Needed
0849 DDD R/W	8
0850 Acq /P&M O.C.	20
0856 Proj. Coord.	60
0859 Capital Mgmt	20
0854 Data Mgmt O.C.	8
0763 Data Mgmt Staff	24

195	Start Date:
Phase 2	End Date:
(Prop Mgmt & Excess Land)	Hours Needed
0851 Appraisals O.C.	
0856 Proj. Coord.	
0860 Appraisals	
0872 Prop Mgmt	
0875 Excess Lands	
0874 Airspace	
0882 Clerical	

200	Start Date: 8/31/2022
Phase 2	End Date: 4/30/2024
(Utilities)	Hours Needed
0849 DDD R/W	8
0852 Utilites O.C.	4
0856 Proj. Coord.	
0859 Capital Mgmt	
0869 Utilities	40
0882 Clerical	

225	Start Date: 8/31/2022
Phase 2	End Date: 4/30/2023
(Pre-Cert Work)	Hours Needed
0849 DDD R/W	8
0850 Acq /P&M O.C.	20
0851 Appraisals O.C.	20
0856 Proj. Coord.	20
0859 Capital Mgmt	14
0860 Appraisals	40
0865 Acquisitions	80
0867 Railroad	200
0868 Acq. Spec. (R.A.)	
0873 Demolition	
0876 RAP	
0882 Clerical	5


245	Start Date: 5/1/2023
Phase 2	End Date: 4/30/2024
(Post-Cert Work)	Hours Needed
0849 DDD R/W	8
0850 Acq /P&M O.C.	
0851 Appraisals O.C.	
0859 Capital Mgmt	14
0860 Appraisals	
0865 Acquisitions	40
0867 Railroad	50
0868 Acq. Spec. (R.A.)	
0873 Demolition	
0876 RAP	
0882 Clerical	

Total hours required (RW Agents Only): 951

Total RW COS (RW Agents Only): \$128,385

Phase 2 only COS (RW Agents Only): \$95,985

Approved By:


Shella Orson (Aug 29, 2022 14:59 PDT)

Shella Orson
District Branch Chief
R/W Project Coordination


Please contact Matthew Goetz for R/W Surveys and R/W Engineering Support Cost Estimates


Attachment E


Fiber Optic Systems – City of Oakland


04-2Q740 Fiber Optic System in the City of Oakland


Traffic Management Centers (TMC)

 Caltrans TMC

 BART (Parking Lot)

 Posey Webster Tube (Portal Building)

 Main Fiber Optic Trunk Line

 Broadway Downtown offramp lateral from main trunk line

NOTE:
Exact fiber conduit routes can be altered to meet the City of Oakland and Environmental requirements.

Caltrans TMC

Option #1 (Red): Fiber line starts at the Broadway Downtown offramp lateral, West on 6th St, North on Webster St, East on 22nd St into a vault on the sidewalk
(1.06 miles)

Option #2 (Pink): Fiber line starts at the Broadway Downtown offramp lateral, North on Harrison St, West on 20th St, North on Webster St, East on 22nd St into a vault on the sidewalk
(1.10 miles)

BART (Parking Lot)

Option #1 (Blue): Lateral from Posey Webster Tube Portal Building, West on 4th St, North on Clay St into BART parking lot
(2000 feet)

Option #2 (Turquoise): Lateral from Posey Webster Tube Portal Building, South on Harrison St, West on 3rd St, North on Clay St into BART parking lot
(2600 feet)

Posey Webster Tube (Portal Building)

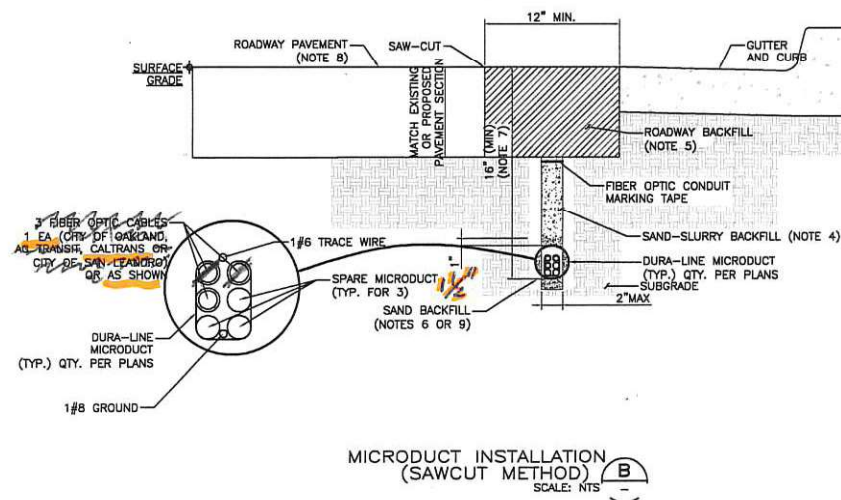
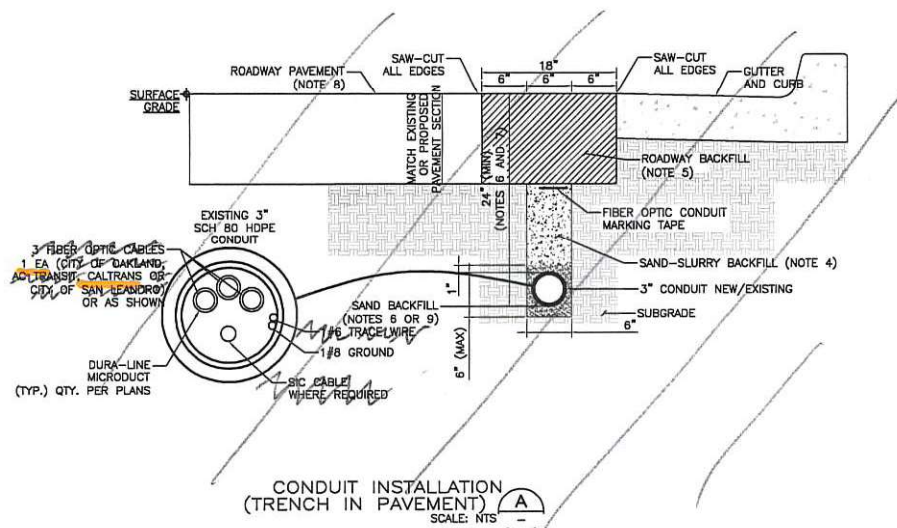
Option #1 (Green): Fiber line starts at the Broadway Downtown offramp lateral, South on Harrison St (East Side) into the Portal Building
(500 feet)

Option #2 (Neon Green): Fiber line starts at the Broadway Downtown offramp lateral, West on 6th St, South on Harrison St (West Side) into the Portal Building
(580 feet)

The map displays the proposed fiber optic routes in Oakland, California. The Main Fiber Optic Trunk Line is shown as a black line running along the Nimitz Freeway (I-880). The Broadway Downtown offramp lateral is shown as an orange line. Three fiber optic routes are highlighted: Option #1 (Red), Option #2 (Pink), and Option #3 (Turquoise). The map also shows major streets, highways, and key locations.

1. CONTRACTOR SHALL REMOVE MATERIAL FROM ROADWAY, AND OTHER MATERIALS (AS NEEDED) TO INSTALL PULLBOX AND TRENCH FOR CONDUIT LAYOUT.
2. REFER TO ROADWAY DRAWINGS FOR BACKFILL AND ROADWAY REPLACEMENT.
3. CONTRACTOR SHALL CONSTRUCT AND INSTALL PULLBOXES AND CONDUITS BASED ON FIELD CONDITIONS.
4. SAND-SLURRY BACKFILL MINIMUM 188 POUNDS OF PORTLAND CEMENT PER CUBIC YARD WITH 2% CALCIUM CHLORIDE.
5. MATCH PROPOSED OR EXISTING PAVEMENT. REFER TO CIVIL ROADWAY DRAWINGS FOR ROADWAY BACKFILL DETAILS.
6. PERMITTEE MAY ELECT TO ELIMINATE SAND BEDDING AND ENCASE CONDUIT IN SLURRY BACKFILL.
7. ON ROADWAYS OF MORE THAN 18" THICKNESS, TOP OF DUCTBANK SHALL BE 6" (MINIMUM) FROM BOTTOM OF ROADWAY PAVEMENT SECTION.
8. EXISTING ROADWAY PAVEMENT SECTIONS WILL VARY. REFER TO CIVIL ROADWAY DRAWINGS FOR NEW ROADWAY PAVEMENT SECTIONS.
9. 3" OF SAND BEDDING AROUND CONDUIT WITH 95% COMPACTION WHERE REQUIRED.

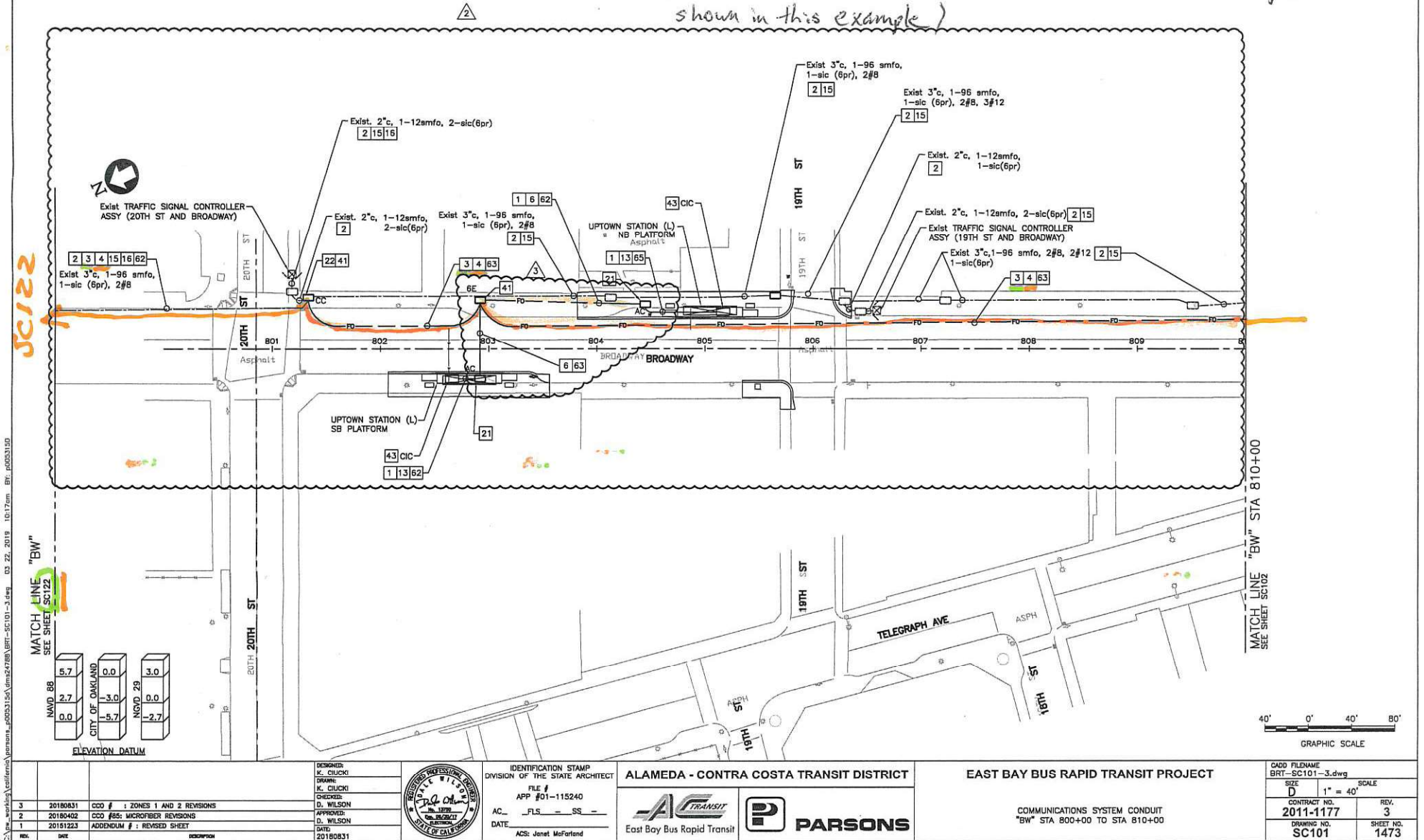
Example of conduit installation on City of Oakland street.



DESIGNED: K. Clucki DRAWING: K. Clucki CHECKED: D. Wilson APPROVED: D. Wilson DATE: 2012.11.06				IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT FILE # APP #01-115240 AC _ FLS _ SS _ DATE _____ ACS: Janet McFarland		ALAMEDA - CONTRA COSTA TRANSIT DISTRICT   East Bay Bus Rapid Transit		EAST BAY BUS RAPID TRANSIT PROJECT COMMUNICATIONS SYSTEM CONDUIT TRENCH DETAILS		CADD FILENAME BRT-SC024-1.dwg SIZE D SCALE CONTRACT NO. 2011-1177 REV. 1 DRAWING NO. SC024 SHEET NO. 1462	
1	20180322	COO #85: MICROFIBER REVISIONS									

Example of Conduit Installation on City of Oakland Street
(Cattrans' proposed fiber conduit line will not need many pull boxes as shown in this example)

- NOTE:
1. SEE DRAWING SC002 FOR GENERAL NOTES, COMMUNICATION SYSTEM NOTES, AND LEGEND.
2. TRAFFIC SIGNALS ARE OWNED, MAINTAINED, AND OPERATED BY CITY OF OAKLAND.
3. CONTRACTOR SHALL MATCH EXISTING CONCRETE SURFACES.



C:\pwworking\cattrans\personnel\p053131\dwg\2105\BRT-SC101-3.dwg 03/22/2019 10:17am BR: p053131

MATCH LINE "BW"
SEE SHEET SC122

NAVD 88	5.7	0.0	3.0
	2.7	-3.0	0.0
CITY OF OAKLAND		-5.7	
NOVD 29	0.0	0.0	-2.7

ELEVATION DATUM

3 20180831 CDD # : ZONES 1 AND 2 REVISIONS 2 20180402 CDD #85: MICROFIBER REVISIONS 1 20151223 ADDENDUM # : REVISED SHEET		DESIGNED: K. CIUCKI DRAWN: K. CIUCKI CHECKED: D. WILSON APPROVED: D. WILSON DATE: 20180831	IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT FILE # APP #01-115240 AC_ FLS SS DATE ACS: Janet McFarland	ALAMEDA - CONTRA COSTA TRANSIT DISTRICT East Bay Bus Rapid Transit	EAST BAY BUS RAPID TRANSIT PROJECT COMMUNICATIONS SYSTEM CONDUIT "BW" STA 800+00 TO STA 810+00	CADD FILENAME BRT-SC101-3.dwg SIZE D SCALE 1" = 40' CONTRACT NO. 2011-1177 DRAWING NO. SC101 REV. 3 SHEET NO. 1473
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Attachment F

**Environmental Document:
Categorical Exemption/Categorical Exclusion**



**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM (rev. 04/2021)**

Project Information

Project Name (if applicable): Fiber Optic System and Traffic Monitoring Stations Elements Project.

DIST-CO-RTE: District 4

PM/PM: Multiple

EA: 2Q740

Federal-Aid Project Number: 0419000044

Project Description

Caltrans proposes to install approximately 50 miles of fiber optic cable, 5 ramp metering systems, 45 highway closed-circuit television cameras, 11 traffic monitoring stations, 22 vehicle detection stations, 1 changeable message sign, and 2 maintenance vehicle pullouts in Alameda, Santa Clara, San Mateo and San Francisco Counties within Oakland city streets and the Caltrans rights of way for Routes 880, 80, 92, 237, and 101.

The purpose of the proposed project is to improve traffic congestion management and monitoring, and communications related to traffic management in Alameda, San Francisco, Santa Clara and San Mateo Counties on Interstate 90 (I-80), I-880, I-980, I-92, US Highway 101 (US 101), and State Route 237 (SR 237).

The project is needed to address Caltrans' limited ability to monitor and share timely information with motorists on frequently congested roads as a means of managing traffic congestion. Existing systems require maintenance, replacement, and upgrades and rely on public telecommunication systems and services which are expensive and unreliable. Improved and new systems are needed to generate transportation management benefits and to improve the overall efficiency of the defined transportation corridors.

Caltrans CEQA Determination (Check one)

- ☐ **Not Applicable** – Caltrans is not the CEQA Lead Agency
- ☐ **Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:

- ☐ **Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
- ☒ **Categorically Exempt. Class 14 CCR 15304** (Minor Alterations to Land: [f] Minor trenching and backfilling where the surface is restored).
 - ☒ No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the [SER Chapter 34](#) for exceptions.
- ☐ **Covered by the Common Sense Exemption.** This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)

2Q740



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM

Senior Environmental Planner or Environmental Branch Chief

Zachary Gifford

Print Name

Zachary Gifford

Signature

7/15/22

Date

Project Manager

Muthanna Omran

Print Name

Muthanna S. Omran

Signature

7/18/2022

Date



**CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM**

Caltrans NEPA Determination (Check one)

☐ **Not Applicable**

Caltrans has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). See [SER Chapter 30](#) for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

☒ **23 USC 326:** Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans has determined that the project is a Categorical Exclusion under:

☒ **23 CFR 771.117(c): activity (c)(2)**

☐ **23 CFR 771.117(d): activity (d)(Enter activity number)**

☐ **Activity Enter activity number listed in Appendix A of the MOU between FHWA and Caltrans**

☐ **23 USC 327:** Based on an examination of this proposal and supporting information, Caltrans has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

Zachary Gifford

Print Name

Signature

7/15/22

Date

Project Manager/ DLA Engineer

Muthanna Omran

Print Name

Signature

7/18/2022

Date

Date of Categorical Exclusion Checklist completion (if applicable): 7/15/22

Date of Environmental Commitment Record or equivalent: 7/15/22

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Continuation sheet:

Aesthetics

A Visual Impact Assessment (VIA) was prepared by Caltrans on June 8, 2021. The VIA found that scenic resources, scenic vistas, and views would not be adversely affected by the project, nor would the project affect visual quality or visual character, especially with project features implemented.

Project features would include utilizing fiber optics installation methods that minimize vegetation trimming, limiting, or avoiding vegetation removal to the extent feasible, and restoring all disturbed ground surfaces and treating with erosion control.

The project improvements will generally be compatible with the urban character of the project corridor. Project improvements would blend in with other existing similar infrastructure or be underground where they would not be visible. The most visible project improvement planned on Interstate 80 would be the changeable message sign. However, since there is already an existing sign in the planned location, and the project proposes to replace it, no impacts are anticipated.

The fiber optics will be buried and will not result in a visible change. The closed-circuit television systems and vehicle detection systems would be small and utilize existing or new poles. These improvements would not impact scenic views or cause other visual effects. The implementation of the project would not require the removal or destruction of visual scenic resources such as trees, rock outcroppings, and historic buildings. Therefore, there would be minimal impacts related to aesthetics.

Biological Resources

A Natural Environment Study (NES) was prepared by Kleinfelder in May of 2022. Although special-status species may occur at the margins and adjacent to the biological study area (BSA), the project is not expected to impact special-status species or their habitats, as work would occur on the existing pavement, existing facilities, or along the disturbed road shoulder. Project features would be implemented such as pre-construction nesting bird surveys, ramping/covering of open excavations, and Best Management Practices (BMPs) for water quality. No impacts to wetlands or other waters of the United States are anticipated. The San Francisco Bay Conservation and Development Commission (BCDC) maintenance permit will be utilized, but no other approvals or consultation with regulatory agencies are expected.

The project will have "No Effect" on special-status species, including those protected under the Federal Endangered Species Act or the California Endangered Species Act. In addition, the project will not affect wetlands and waters of the U.S. or state, or stream



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

resources protected under Section 1602 of the California Fish and Game Code. Denis Coghlan has discussed these findings with Matthew Rechs (Caltrans' Branch Chief of Biological Science and Permits), who has agreed with this determination.

Cultural Resources

The Caltrans Office of Cultural Resource Studies (OCRS) prepared a Section 106 Compliance Memorandum on May 4, 2021. The project was reviewed by Caltrans' archaeologist and architectural historian to determine its potential to affect archeological and historical resources, respectively. OCRS staff reviewed the Caltrans Cultural Resource Database, as-built plans, aerial photographs, and maps.

Based on Caltrans review, no cultural resources were documented within the project area, and no historic properties or historical resources are present in the project's Area of Potential Effect. In addition, the project has little or no potential to impact intact prehistoric resources and/or archaeological deposits or features that are potentially eligible for listing on the National Register of Historic Places or California Register of Historic Resources. The OCRS determined that the project has no potential to affect cultural resources. However, project features will be implemented such as halting work if previously unidentified cultural resources are unearthed during construction until a qualified archaeologist can assess the significance of the discovery.

Greenhouse Gas Emissions

A Construction Greenhouse Gas (GHG) Emissions Analysis memorandum was prepared by Caltrans on November 11, 2021. The analysis found that the project would result in short-term GHG emissions from the use of construction equipment and construction vehicles. These emissions would be produced at different rates depending on the activities involved at various phases of construction. GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET) 2020 version 1.0. It was estimated that for a maximum construction duration of 300 working days, the total amount of Carbon Dioxide (CO₂) produced due to construction would be 2,825 tons. A summary of Construction-related GHG Emissions is provided in Table 1 of the GHG Emissions Analysis memorandum for this project.

Since construction activities are short-term, the GHG emissions increase from the project would be short-term as well. The project would not increase roadway capacity or generate substantial operational emissions. BMPs would be implemented to reduce GHG emissions during project construction such as complying with air-pollution-control rules, regulations, ordinances, and statutes and using standard construction measures (e.g., limiting idling vehicles, and regular maintenance of construction vehicles and equipment).



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Hazardous Materials

Construction of the proposed project could result in the potential disturbance of hazardous materials in soil and groundwater in the project area where open trenching is required. Shallow soils along the project routes would be excavated to a depth of approximately 3 feet during construction. These highly disturbed soils are likely to contain aerially deposited lead (ADL) at concentrations above Department of Toxic Substances Control-regulated levels. ADL is typically found in soils along roadways from historic use of leaded gasoline. This potential effect would be addressed by project features described in the paragraph below.

Before construction activities commence, testing for ADL would be conducted, where potential soil contamination risks are present. Additionally, a work plan for ADL would be developed. Contaminated materials would be properly disposed in accordance with Caltrans' guidelines. Furthermore, Caltrans is required to adhere to federal and state regulations during project construction and maintenance, which would reduce the risk of exposure to hazardous materials and accidental releases of hazardous materials.

Hydrology and Water Quality

Caltrans prepared a Floodplain Encroachment Review on April 29, 2021, and a Water Quality Study in March 2021. These studies found that the project would not impact existing floodplains, alter the course of a stream or river, or remove access to existing drainages within the project limits. The project would not include any features that would increase the risk of flooding.

Although temporary impacts from soil disturbance and the operation of construction equipment have the potential to negatively impact water quality, implementation of BMPs as required by the Regional Water Quality Control Board's (RWQCB) approved Water Pollution Control Program (WPCP) would avoid or reduce impacts to surface and groundwater quality. Furthermore, a Stormwater Pollution Prevention Plan (SWPPP) will be required and will include BMPs for water quality. As part of the BMPs, sediment control and material management will be implemented.

As noted above, soils would be tested for ADL before construction. A work plan for ADL would be developed during the design phase. Any contaminated soils would be removed from the site and disposed properly.

As part of Caltrans' Municipal Separate Storm Sewer System Permit, trash capture devices will be used to provide trash control in Significant Trash Generation Areas (STGA) within Caltrans' right of way, reducing potential long-term water quality impacts. Therefore, the project would have less than significant impacts related to hydrology and water quality.



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

The project would be required to adhere to the Clean Water Act, the Porter-Cologne Water Quality Control Act, Caltrans' Municipal Separate Storm Sewer System Permit, and the other applicable federal and state laws and regulations. Therefore, the project is not anticipated to conflict with or obstruct implementation of a water quality control plan.

Noise, Air Quality, and Energy

Temporary and short-term impacts related to noise, air quality, and energy would occur during construction and periodic maintenance activities. The project would not result in increased operational noise. Noise impacts from the project would be minimal due to the location of the construction activity within busy highway rights of way, the short duration of activities, and implementation of project features.

There would be temporary air emissions from the use of construction equipment and vehicles, which would be powered by gas and diesel. However, project construction would be of limited duration, and a substantial amount of pollutants would not be generated that would result in a cumulatively considerable net increase of criteria pollutants. Project operation is not expected to contribute to air emissions, because the project is not a capacity-increasing project and would not add new traffic to the area. The project would not interfere with the control measures described in BAAQMD's 2017 Clean Air Plan or implementation of any Regional Transportation Plan.

While energy would be consumed during the construction of the project from the use of construction equipment and vehicles, it would not be consumed in a wasteful or inefficient way. The project would not conflict with state and local plan for renewable energy or energy efficiency. Furthermore, during operation, the project would have an incremental beneficial effect on energy consumption by helping to optimize traffic operations.

Other Issues

The project would have no meaningful effects on:

- Agriculture and Forest Resources
- Geologic Resources, Geology or Soils (Refer to Water Quality)
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services or Utilities
- Recreation
- Transportation
- Tribal Cultural Resources
- Wildfire

Attachment G

Stormwater Data Report – Long Form



Dist-County-Route: 04-Ala, SF, SM, SCI -Var

Post Mile Limits: PM Var

Type of Work: Install Traffic Management System

Project ID (EA): 0419000044 (EA 2Q7401)

Program Identification: SHOPP 201.315

Phase: ☐ PID ☒ PA/ED ☐ PS&E

Regional Water Quality Control Board(s): San Francisco Bay Region (R-2)

Total Disturbed Soil Area: 36 acres PCTA: 0.04 acres

Alternative Compliance (acres): 0 acre ATA 2 (50% Rule)? Yes ☐ No ☒

Estimated Const. Start Date: 02/15/2024 Estimated Const. Completion Date: 12/08/2028

Risk Level: RL 1 ☐ RL 2 ☒ RL 3 ☐ WPCP ☐ Other: _____

Is MWEL0 applicable? Yes ☐ No ☒

Is the Project within a TMDL watershed? Yes ☒ No ☐

TMDL Compliance Units (acres): TBD

Notification of ADL reuse (if yes, provide date): Yes ☒ Date: TBD No ☐

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E only.

[Signature] 07/15/22
[Van Hew/Jiangfan Chen], Registered Project Engineer/Landscape Architect Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Muthanna Omran 12/1/2022
[Muthanna Omran], Project Manager Date

Amrinder Jhaggi 12/08/2022
[Amrinder Jhaggi], Designated Maintenance Representative Date

Alex McDonnell 12-13-2022
for Kimberly White, Designated Landscape Architect Date
Representative

Mojgan Osooli 12/22/2022
[Stamp Required at PS&E only] [Mojgan Osooli], District/Regional Design SW Date
Coordinator or Designee

STORMWATER DATA INFORMATION

1. Project Description

The project is to install Transportation Management System elements to improve traffic congestion management in Alameda, San Francisco, San Mateo, and Santa Clara Counties on Routes 80, 92, 101, 237, 880/880s, and 980 at various locations. See Figure-1 for the Project Location Map.

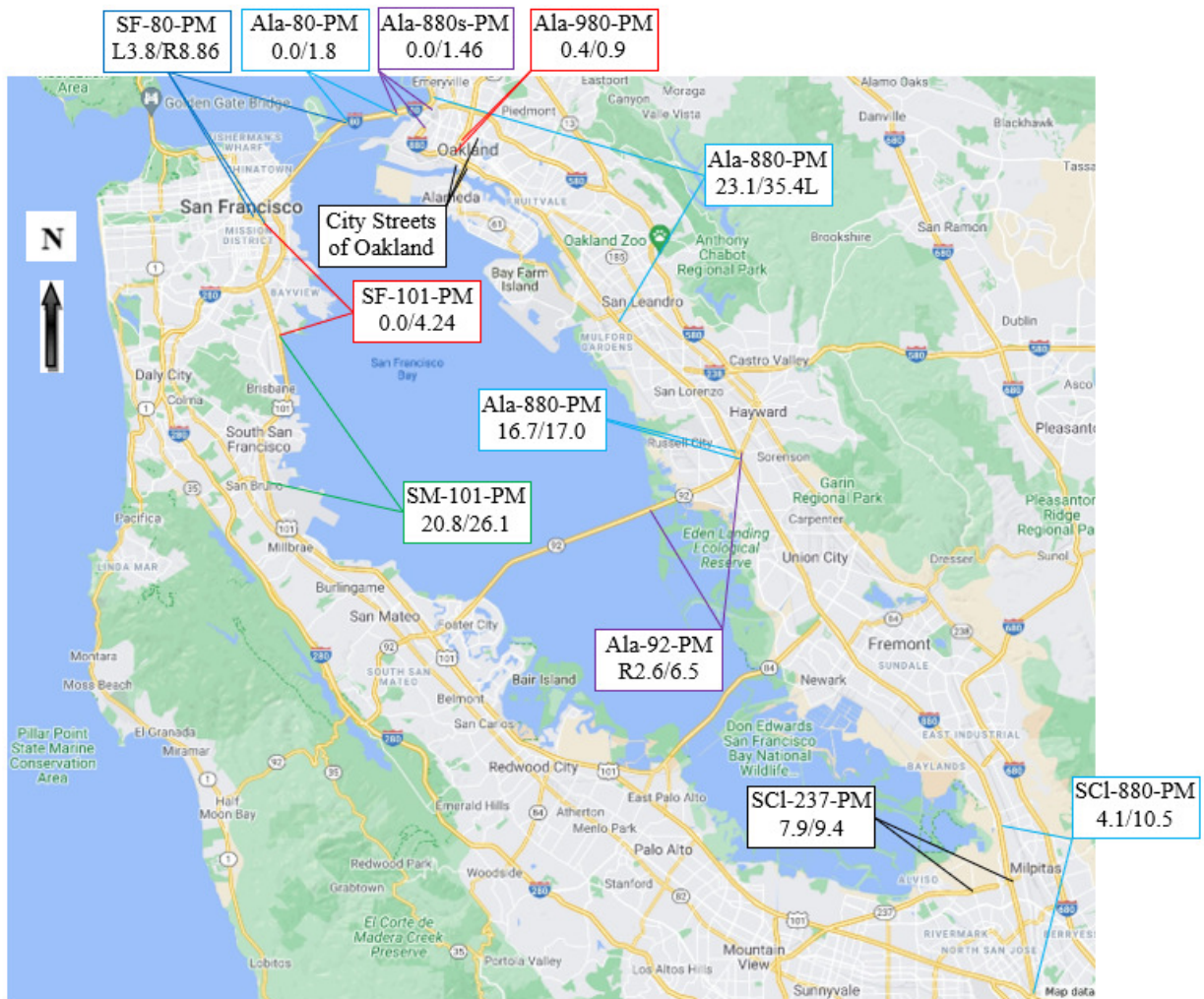


Figure-1 Project in Alameda, San Francisco, San Mateo, and Santa Clara Counties at Various Locations.

Purpose:

The purpose of the project is to install Transportation Management System elements to improve traffic congestion management, monitoring, and communications related to traffic management.

Need:

The project is needed to install and replace necessary Transportation Management System elements to proactively manage traffic congestion.

The project elements include fiber optic systems (trunk line), ramp meters, closed-circuit televisions (CCTV), traffic monitoring stations (TMS), vehicle detection stations (VDS), a changeable message sign (CMS), and Maintenance Vehicle Pullouts (MVP).

Trucks, small excavators, sweepers, and other construction equipment are anticipated to assist construction.

The following values were estimated:

- Total disturbed soil area (DSA) is 36.0 acres
- New impervious surface (NIS) is 0.04 acres
 - Net New Impervious (NNI) is 0.04 acres
 - Replaced impervious surface (RIS) is 0.0 acre
 - Existing impervious area is 102 acres
- Post Construction Treatment Area is 0.0 acres
 - NNI is not greater than 50% of the post project impervious area
 - Existing Treatment BMPs are not removed as part of the project

The total disturbed soil area (DSA) is 36.0 acres due to fiber trenching.

The project will add 0.04 acres of net new impervious surfaces due to two new Maintenance Vehicle Pullout (MVPs). There is no replaced impervious surface. Storm water treatment is not required for this project because the new impervious surface is less than 5,000 sqft threshold for storm water treatment.

2. Site Data and Stormwater Quality Design Issues

Project Location & Receiving Water Bodies:

The project is located within the jurisdiction of the San Francisco Bay Regional Board 2, which is responsible for implementation & enforcement of State/Federal laws & regulations concerning water quality.

The project site is within Hydrologic Sub-Area (HAS) 203.10, 204.10, 204.20, 204.40, 205.30.

Watershed Information

CALWATER WATERSHED

Hydrologic Unit	BAY BRIDGES	Hydrologic Area	Bay Waters	Hydrologic Sub-Area #	203.10
Hydrologic Sub-Area Name	undefined	Planning Watershed	2203100000	HSA Area (acres)	53031
Latitude, Longitude	37.8225, -122.3659				

WATERSHED BOUNDARY DATASET

Watershed	San Francisco Bay	Subwatershed	Angel Island-San Francisco Bay Estuaries	Hydrologic Unit Code	180500021001
Average Annual Precipitation (inches)	22.61				

Watershed Information

CALWATER WATERSHED

Hydrologic Unit	SOUTH BAY	Hydrologic Area	Bay Channel	Hydrologic Sub-Area #	204.10
Hydrologic Sub-Area Name	undefined	Planning Watershed	2204100000	HSA Area (acres)	110590
Latitude, Longitude	37.8067, -122.3597				

WATERSHED BOUNDARY DATASET

Watershed	San Francisco Bay	Subwatershed	Oakland Inner Harbor-San Francisco Bay	Hydrologic Unit Code	180500041002
Average Annual Precipitation (inches)	14.56				

Watershed Information

CALWATER WATERSHED

Hydrologic Unit	SOUTH BAY	Hydrologic Area	East Bay Cities	Hydrologic Sub-Area #	204.20
Hydrologic Sub-Area Name	undefined	Planning Watershed	2204200400	HSA Area (acres)	157396
Latitude, Longitude	37.7851, -122.2402				

WATERSHED BOUNDARY DATASET

Watershed	San Lorenzo Creek-Frontal San Francisco Bay Estuaries	Subwatershed	Sausal Creek-Frontal San Francisco Bay Estuaries	Hydrologic Unit Code	180500040805
Average Annual Precipitation (inches)	19.84				

Watershed Information

CALWATER WATERSHED

Hydrologic Unit	SOUTH BAY	Hydrologic Area	San Mateo Bayside	Hydrologic Sub-Area #	204.40
Hydrologic Sub-Area Name	undefined	Planning Watershed	2204400102	HSA Area (acres)	107918
Latitude, Longitude	37.7541, -122.3954				

WATERSHED BOUNDARY DATASET

Watershed	San Mateo Creek-Frontal San Francisco Bay Estuaries	Subwatershed	Visitation Valley-Frontal San Francisco Bay Estuaries	Hydrologic Unit Code	180500040904
Average Annual Precipitation (inches)	21.79				

Watershed Information

CALWATER WATERSHED

Hydrologic Unit	SANTA CLARA	Hydrologic Area	Coyote Creek	Hydrologic Sub-Area #	205.30
Hydrologic Sub-Area Name	undefined	Planning Watershed	2205300800	HSA Area (acres)	236171
Latitude, Longitude	37.4075, -121.9059				

WATERSHED BOUNDARY DATASET

Watershed	Lower Coyote Creek-Frontal San Francisco Bay Estuaries	Subwatershed	Lower Penitencia Creek-Frontal San Francisco Bay Estuaries	Hydrologic Unit Code	180500030204
Average Annual Precipitation (inches)	15.77				

Figure-2 Watershed Information

San Francisco Bay is receiving water for the project, and it is a 303(d) listed waterbody impaired for Mercury and PCBs (Polychlorinated biphenyls), where Caltrans is a stakeholder.

The Region 2 Basin Plan establishes beneficial uses for waterways & water bodies within the region. Beneficial uses of the project are shown in Figure-3 below.

Waterbody Name	Beneficial Uses	Sediment-Sensitive Waterbody
San Francisco Bay Central	COMM, EST, IND, MIGR, NAV, PROC, RARE, REC1, REC2, SHELL, SPWN, WILD	FALSE
San Francisco Bay Lower	COMM, EST, IND, MIGR, NAV, RARE, REC1, REC2, SHELL, SPWN, WILD	FALSE
San Francisco Bay South	COMM, EST, IND, MIGR, NAV, RARE, REC1, REC2, SHELL, SPWN, WILD	FALSE

Figure-3 The Information of Beneficial Uses

The jobsite is in an unincorporated separate storm sewer system (MS4) San Francisco Bay Area of San Francisco County, Santa Clara County, Alameda County, and San Mateo County. Storm water runoff from the job site drains into the municipal separate storm sewer system that eventually drains into receiving water bodies of San Francisco Bay.

Climatography:

The project is in a Mediterranean climate region characterized by dry summers that are long, comfortable, arid & mostly clear with winters that are short, cold, wet & partly cloudy. Rainy season is between October 15 to April 15. The U.S. Climate Data provides general climate information within the vicinity of the project. The project site in April has an average low & high temperature of 45 & 70 Fahrenheit degrees respectively, with an average annual temperature of 59.3 degree. Monthly average temperatures vary between a minimum of 39 degree to maximum of 85 degree. Majority of the precipitation is between December & February.

Topography & Soil Characteristics:

The project sites consist of relatively flat terrain utilized for various urban land uses (residential, commercial, and industrial).

From the National Resources Conservation Service (NRCS) Web Soil Survey tool, the Hydrologic Soil Group (HSG) at the project is mainly classified as "B", "C" & "D". The soil types include clay, loam, clay loam, and silty clay loam. Soil group "B" has a moderate infiltration when thoroughly wet. Soil group "C" has a slow infiltration rate. Soil group "D" has a very slow infiltration rate.

The Soil-Erodibility K Factor represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input. The project has moderate K values (about 0.24 to 0.37), which means they are moderately susceptible to particle detachment and they produce runoff at moderate rates.

The project is not located in an area of Special Biological Significance (ASBS). There is no drinking water reservoir noticed within the project limits.

There is no dry wheather flow.

Potential Temporary & Permanent Water Quality Impacts:

Potential temporary impacts to existing water quality would result from staging and active construction areas, which could result in the release of fluids, concrete material, sediment & litter beyond the perimeter of the site. Impacts may include a temporary change in localized pH and turbidity.

Potential long-term impacts to existing water quality are the same for the existing facility, the deposition and transport of sediment & vehicular-related pollutants.

3. Construction Site BMPs to be used on Project

The project has a soil disturbance of approximately 36 acres. To comply with the conditions of the Construction General Permit (NPDES No. CAS000002) and Caltrans NPDES Permit (NPDES No. CAS000003) and address the temporary water quality impacts resulting from the construction activities in this project, a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented during construction. The SWPPP will identify the temporary construction site Best Management Practices (BMPs) to be implemented to address the temporary water quality impacts resulting from the construction activities in the project. The temporary construction site Best Management Practices (BMPs) that are to be considered for this project based on the project construction activities and potential water quality will include the consideration of the following:

Temporary Soil Stabilization Control and Wind Erosion Control

Temporary soil stabilization and wind erosion control BMPs involve the placement of fabric covers or plastic sheeting to stabilize the disturbed soil areas and protect soils from erosion by wind and water. Temporary Soil Stabilization Control and Wind Erosion Control BMPs may include temporary cover for the stockpiles.

Temporary Sediment Control

Temporary Sediment Control BMPs are temporary linear sediment barriers to intercept and slow the flow of sediment-laden sheet flow runoff. Temporary Sediment Control BMPs are usually placed down-slope of exposed soil areas or along the perimeter of a project site to allow sediment to settle from runoff before the water leaves the construction site. Temporary Sediment Control BMPs may include temporary fiber rolls, temporary reinforced silt fences, and temporary drainage inlet protections. Temporary fiber rolls will be placed along the perimeter of the stockpiles.

Tracking Control

Temporary Tracking Control consists of preventing or reducing vehicle tracking from entering a storm drain or watercourse. Tracking Control BMPs may include street sweeping and temporary drainage inlet protections.

Temporary Concrete Washout

Temporary concrete washouts are used to contain concrete wastes when the chutes of concrete trucks are rinsed out after delivery of concrete to the construction site. These washouts function to consolidate solids for disposal and prevent runoff liquids associated with concrete.

Job Site Management

Job Site Management implements effective handling, storage, usage, and disposal practices to control material pollution and manage waste at the job site before they meet storm drain systems and receiving waters. Job site management includes spill prevention and control, material management, waste management, nonstormwater management, and dewatering activities.

4. Maintenance BMPs

Drainage Inlet Stenciling will be required at the drainage inlets where can be accessed by pedestrians.

5. Other Water Quality Requirements and Agreements

Section 401 of the Federal Water Pollution Control Act, more commonly known as the Clean Water Act, requires a water quality certification from either the SWRCB or appropriate RWQCB when a project requires a federal license or permit, typically resulting in impact(s) to waters of the U.S. The project is still determining if there is any impact to the Waters of the United States. If it is determined that the project has an impact to the Water of the United States, a CWA Section 404 Permit issued by the U.S. Army Corps of Engineers (USACE) will be required. Thus, a 401 certification is also required from San Francisco Bay Regional Water Quality Control Board (Region 2).

6. Permanent BMPs

Hydromodification/Rapid Stability Assessment

The project will add 0.04 acres of new impervious surface due to the installation of two Maintenance Vehicle Pullouts, which is less than 1 ac, Hydromodification and Rapid Stability Assessment are not anticipated for this project at this phase. However, if there is any change to the work scope which results in an increase of new impervious surface, these requirements need to be reevaluated.

Design Pollution Prevention (DPP) BMP Strategy

Traditional erosion and sediment control measures are proposed and will sufficiently address the erosion potential of the disturbed soil areas associated with construction activities. Measures include; compost amendment, fiber rolls, coir netting, wood excelsior blankets, and hydroseed/hydromulch. Seed mixes used for hydroseeding are both appropriate for the region and application (seasonally moist or upland). Proposed slopes will be 4:1 or flatter and no greater than 2:1 without a Geotechnical Recommendation.

Natural areas, including existing vegetation and soils, will be preserved to the maximum extent possible.

The Environmentally Sensitive Areas (ESAs) and areas of existing vegetation (mature trees, native vegetation, landscape planting, etc.) that need not be disturbed by construction activities will be clearly designated on the project plans and will be preserved and protected with high visibility plastic fence or other BMP to prevent from clearing and grubbing and other construction disturbance.

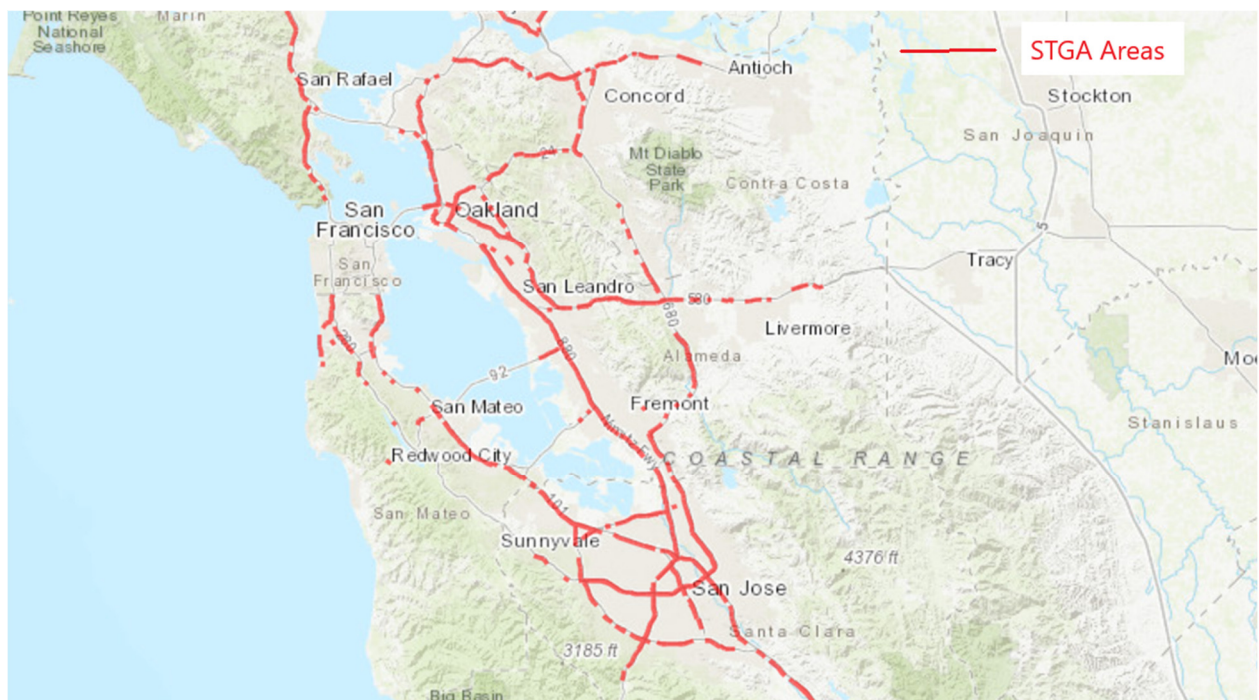
Treatment BMP Strategy

Because the project will add 0.04 acres of new impervious surface, which is less than 5,000 sqft threshold for storm water treatment. Storm water treatment BMPs are not anticipated for this project. However, if there is any change to the work scope which results in an increase of new impervious surface, this requirement needs to be reevaluated.

Trash Capture

September 19, 2012, the State Water Resources Control Board (State Water Board) adopted Order No. 2012- 0011-DWQ (Permit), issuing waste discharge requirements as NPDES Permit No. CAS000003, Statewide Storm Water Permit and Waste Discharge Requirements for the State of California Department of Transportation. This permit was amended on May 20, 2014, with Order No. 2014-0077-DWQ, which modified the Caltrans' trash reduction requirements by incorporating the trash reduction requirements in the Cease and Desist Order (CDO) No. R2-2019-0007.

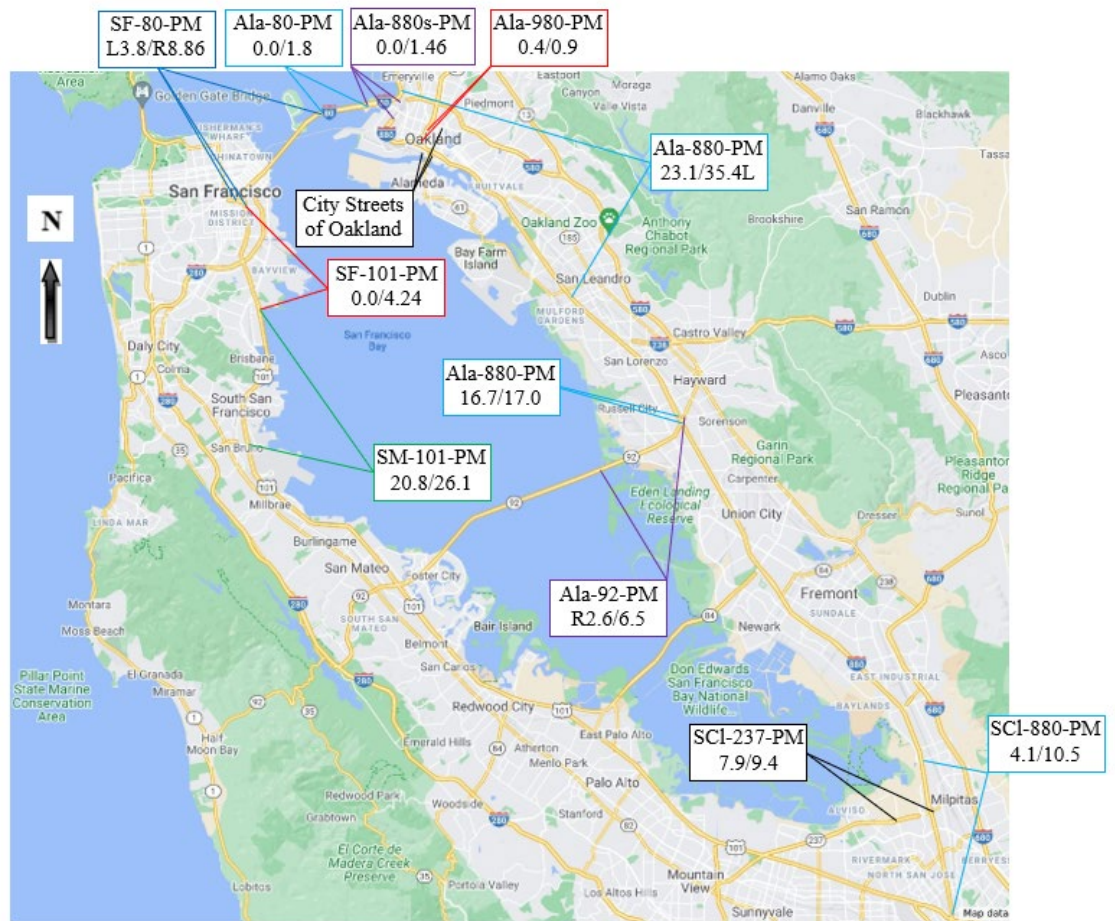
The Cease and Desist Order requires the Department to prohibit the discharge of trash into surface waters by the timely implementation of trash control measures in all significant trash generation areas in the San Francisco Bay Region. To comply with Caltrans Statewide NPDES Permit and the Cease and Desist Order, the Office of Water Quality requires a project with a total construction cost of \$5 million or more and any part of the project is within the STGA areas to implement trash capture requirement. The project has a total construction cost of \$85,000,000 and it is within the STGA areas. Therefore, trash capture is required for the project. The trash capture will be designed by our consultants.



Required Attachments

- Vicinity Map
- Evaluation Documentation Form (EDF)
- Water Quality Cost Estimate

Vicinity Map



DATE: 04/15/2022

Project ID (EA): 0419000044 (2Q740)

No.	Criteria	Yes ✓	No ✓	Supplemental Information for Evaluation
1.	Begin Project evaluation regarding requirement for implementation of Treatment BMPs	✓		See Figure 4-1, Project Evaluation Process for Consideration of Treatment BMPs. Continue to 2.
2.	Is the scope of the Project to install Treatment BMPs (e.g., Alternative Compliance or TMDL Compliance Units)?		✓	If Yes , go to 8. If No , continue to 3.
3.	Is there a direct or indirect discharge to surface waters?	✓		If Yes , continue to 4. If No , go to 9.
4.	As defined in the WQAR or ED, does the project: a. discharge to areas of Special Biological Significance (ASBS), or b. discharge to a TMDL watershed where Caltrans is named stakeholder, or c. have other pollution control requirements for surface waters within the project limits?		✓	If Yes to any , contact the District/Regional Design Stormwater Coordinator or District/Regional NPDES Coordinator to discuss the Department's obligations, go to 8 or 5. MO _____ (Dist./Reg. Coordinator initials) If No to all, continue to 5.
		✓		
			✓	
5.	Are any existing Treatment BMPs partially or completely removed? (ATA condition #1, Section 4.4.1)		✓	If Yes , go to 8 AND continue to 6. If No , continue to 6.
6.	Is this a Routine Maintenance Project?		✓	If Yes , go to 9. If No , continue to 7.
7.	Does the project result in an increase of <u>one acre or more</u> of new impervious surface (NIS)?		✓	If Yes , go to 8. If No , go to 9.
8.	Project is required to implement Treatment BMPs.	Complete Checklist T-1, Part 1.		
9.	Project is not required to implement Treatment BMPs. MO _____ (Dist./Reg. Design SW Coord. Initials) JC _____ (Project Engineer Initials) <u>04/15/2022</u> (Date)	Document for Project Files by completing this form and attaching it to the SWDR.		

1. Construction Site BMPs:

The project has a roadway cost of \$85,000,000, we estimate 2% for Construction Site BMPs

Construction Site BMPs = \$ 85,000,000 X 2% = \$1,700,000

23.	Total Roadway Item Cost (\$)	\$ 85,000,000					
24.	Total Structure Item Cost (\$)	0					

2. Erosion Control BMPs

The project has a roadway cost of \$85,000,000, we estimate 2.0% for Erosion Control BMPs

Erosion Control BMPs = \$ 85,000,000 X 2% = \$1,700,000

3. Storm Water Treatment BMPs

The project has 0.04 ac (1,742 sqft) New Impervious Surface (NIS), which is less than 5,000 sqft threshold. Therefore, no storm water treatment is required. However, because this is a 401-permit project, storm water treatment requirement can be changed due to 401 permit conditions, so we keep some cost for this item.

Storm Water Treatment BMPs = \$ 300,000/acre of new impervious surface x 0.04 acres
= \$12,000

4. Trash Capture BMPs

The project has a total construction cost of \$85M and is within the STGA areas. Therefore, trash capture is required for this project.

Trash Capture BMPs = \$ 85,000,000 X 2% = \$1,700,000



More detailed estimate will be provided in the PS&E phase. If there is any change to the project scope, the above estimates can be changed. If this is the case, please let us and we will make updates.

Attachment H

**Cooperative Agreement and Cooperative Agreement
Report**

COOPERATIVE AGREEMENT

Local Contribution Only

This AGREEMENT, effective on July 19, 2021, is between the State of California, acting through its Department of Transportation, referred to as CALTRANS, and:

Metropolitan Transportation Commission, a public corporation/entity, referred to hereinafter as MTC.

RECITALS

1. PARTIES are authorized to enter into a cooperative agreement for improvements to the State Highway System (SHS) per the California Streets and Highways Code, Sections 114 and 130.
2. The term AGREEMENT, as used herein, includes this document and any associated attachments, exhibits, and amendments.
3. For the purpose of this AGREEMENT, designing and implementing transportation management systems on existing and new communication infrastructures along I-880, SR-101, I-980, and I-80. The Project upgrades the existing communication network with fiber optic lines, and upgrades software & hardware for network connections. The Project provides reliable communication network infrastructure that enables real-time data sharing between the transportation management system (TMS) and the Caltrans transportation management center (TMC) through the implementation of the transportation systems management and operations (TSMO), will be referred to hereinafter as PROJECT. This description only serves to identify the PROJECT. The project scope of work is defined in the appropriate authorizing documents per the Project Development Procedures Manual.
4. MTC will contribute an amount of \$1,740,000 to the PROJECT. Contributed funds will be used for the PROJECT. Funding amount is contingent upon approval of the MTC annual budget.
5. PARTIES agree that funds will be contributed to the following PROJECT COMPONENTS:

- PA&ED

○ PS&E

6. PARTIES hereby set forth the terms, covenants, and conditions for MTC's contribution toward the PROJECT.

ROLES AND RESPONSIBILITIES

7. CALTRANS is the SPONSOR and IMPLEMENTING AGENCY for the PROJECT.
8. MTC is a FUNDING PARTY contributing a fixed amount toward the PROJECT as shown in the FUNDING TABLE.
9. CALTRANS is responsible for completing all work for the PROJECT.

GENERAL CONDITIONS

10. All portions of this AGREEMENT, including the Recitals Section, are enforceable.
11. All obligations of CALTRANS under the terms of this AGREEMENT are subject to the appropriation of resources by the Legislature, the State Budget Act authority, and the allocation of funds by the California Transportation Commission.
12. The cost of any engineering support performed by CALTRANS includes all direct and applicable indirect costs. CALTRANS calculates indirect costs based solely on the type of funds used to pay support costs. State and federal funds administered by CALTRANS are subject to the current Program Functional Rate. All other funds are subject to the current Program Functional Rate and the current Administration Rate. The Program Functional Rate and Administration Rate are adjusted periodically.

13. Neither MTC nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by CALTRANS, its contractors, sub-contractors, and/or its agents under or in connection with any work, authority, or jurisdiction conferred upon CALTRANS under this AGREEMENT. It is understood and agreed that CALTRANS, to the extent permitted by law, will defend, indemnify, and save harmless MTC and all of its officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, but not limited to, tortious, contractual, inverse condemnation, or other theories and assertions of liability occurring by reason of anything done or omitted to be done by CALTRANS, its contractors, sub-contractors, and/or its agents under this AGREEMENT.
14. This AGREEMENT is intended to be PARTIES' final expression and supersedes any oral understanding or writings pertaining to PROJECT.

INVOICE AND PAYMENT

15. MTC will contribute the funds listed below:

FUNDING TABLE			
Fund Source	Fund Type	Project Component	Amount
FEDERAL	STP*	PA&ED	\$1,730,000
FEDERAL	STP*	PS&E	\$10,000
Total Funds			\$1,740,000

*Toll credits are being utilized as the non-federal match.

16. CALTRANS will draw from state and federal funds that are provided by MTC without invoicing MTC when CALTRANS administers those funds and CALTRANS has been allocated those funds by the CTC and whenever else possible. Otherwise invoicing and payment will occur in accordance with this AGREEMENT.
17. CALTRANS will submit to MTC monthly invoices for the prior month's expenditures.

18. MTC will pay the invoiced amount within forty-five (45) calendar days of receipt of the invoice unless MTC is paying with Electronic Funds Transfer (EFT). When paying with EFT, MTC will pay the invoiced amount within five (5) calendar days of receipt of the invoice.
19. If MTC has received Electronic Funds Transfer (EFT) certification from CALTRANS then MTC will use the EFT mechanism and follow all EFT procedures to pay all invoices issued from CALTRANS.
20. PARTIES agree to sign a CLOSURE STATEMENT to terminate this AGREEMENT. However, all indemnification articles will remain in effect until terminated or modified in writing by mutual agreement.

DEFINITIONS

CLOSURE STATEMENT – A document signed by PARTIES that verifies the completion of all obligations included in this AGREEMENT and in all amendments to this AGREEMENT.

FUNDING PARTY – A PARTY who commits a defined dollar amount to the PROJECT.

IMPLEMENTING AGENCY – The party responsible for managing the scope, cost, and schedule of a project component to ensure the completion of that component.

PARTY – An individual signatory agency in this AGREEMENT.

PARTIES – The term that collectively references all of the signatory agencies to this AGREEMENT.

SPONSOR – The PARTY that accepts the obligation to secure financial resources to fully fund PROJECT. This includes any additional funds beyond those committed in this AGREEMENT necessary to complete the full scope of PROJECT.

PROJECT COMPONENT – A distinct portion of the planning and project development process of a capital project as outlined in California Government Code, Section 14529(b).

- **PID (Project Initiation Document)** – The activities required to deliver the project initiation document for the PROJECT.
- **PA&ED (Project Approval and Environmental Document)** – The activities required to deliver the project approval and environmental documentation for the PROJECT.
- **PS&E (Plans, Specifications, and Estimate)** – The activities required to deliver the plans, specifications, and estimate for the PROJECT.
- **R/W (Right of Way) SUPPORT** – The activities required to obtain all property interests for the PROJECT.
- **R/W (Right of Way) CAPITAL** – The funds for acquisition of property rights for the PROJECT.
- **CONSTRUCTION SUPPORT** – The activities required for the administration, acceptance, and final documentation of the construction contract for the PROJECT.
- **CONSTRUCTION CAPITAL** – The construction contract funds for the PROJECT.

CONTACT INFORMATION

The information provided below indicates the primary contact information for each PARTY to this AGREEMENT. PARTIES will notify each other in writing of any personnel or location changes. Contact information changes do not require an amendment to this AGREEMENT.

The primary AGREEMENT contact person for CALTRANS is:

Muthanna Omran, Regional Project Manager

111 Grand Avenue

Oakland, CA 94612

Office Phone: (510) 286-5800

Mobile Phone: (510) 715-8212

Email: muthanna.omran@dot.ca.gov

The primary AGREEMENT contact person for MTC is:

Mario Ung, Associate Program Coordinator

375 Beale Street

San Francisco, CA 94105

Office Phone: (415) 778-6639

Email: mung@bayareametro.gov

SIGNATURES

PARTIES are empowered by the law to enter into this AGREEMENT and have delegated to the undersigned the authority to execute this AGREEMENT on behalf of the respective agencies and covenants to have followed all the necessary legal requirements to validly execute this AGREEMENT.

This AGREEMENT may be executed and delivered in counterparts, and by each PARTY in a separate counterpart, each of which when so executed and delivered shall constitute an original and all of which taken together shall constitute one and the same instrument.

The PARTIES acknowledge that executed copies of this AGREEMENT may be exchanged by facsimile or email and that such copies shall be deemed to be effective as originals.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DocuSigned by:

Helena (Lenka) Culik-Caro

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Helena (Lenka) Culik-Caro
Deputy District Director, Design

Verification of funds and authority:

DocuSigned by:

JEFFREY KUEHNEL

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Jeffrey Kuehnel
District Budget Manager

METROPOLITAN TRANSPORTATION COMMISSION

DocuSigned by:

Therese W. McMillan

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Therese W. McMillan
Executive Director

Attest:

DocuSigned by:

Andrew B. Fremier

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Andrew B. Fremier
Deputy Executive Director, Operations

Approved as to form and procedure:

DocuSigned by:

Matthew Lavrinets

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Matthew Lavrinets
Senior Counsel

COOPERATIVE AGREEMENT REPORT

Approved and Recommended:

Muthanna S. Omran

Muthanna Omran
Regional Project Manager- BATA
Project Management- West

Ziad Abubekr

Ziad Abubekr
District Division Chief
Division of Design - South

Approved by:

Helena (Lenka) Culik-Caro

Helena (Lenka) Culik-Caro
Deputy District Director
Division of Design

July 19, 2021

Date

1. Introduction

Caltrans is implementing Traffic Management System (TMS) improvements on various routes in the SF peninsula and the East Bay through project EA 04-2Q740 which was programmed in July 2020 and is currently in the PA&ED phase. This project includes trenching/installation of fiber optic cable, ramp metering systems, Closed Circuit Television (CCTV) cameras, loop detectors, connections to existing TMS features, vehicle detection systems, and a changeable message sign system on routes 80, 101, 880, and 980.

Metropolitan Transportation Commission (MTC) approached Caltrans and offered funding to help support this project in exchange for expanding the length of fiber optic cable installation and connections to existing TMS devices.

The approval document for project EA 2Q740 is Project Initiation Report and was approved on June 28th, 2019.

2. Problem

trenching/installation and connections to 3 existing CCTV cameras. The total construction cost of this scope is estimated to be \$6.442M. Caltrans plans to add this scope in the Project Report and via Project Change Request (PCR) but would need the funding MTC is offering to complete it. MTC is offering Caltrans \$1.74M for phases 0 and 1 and \$7.5M for phases 3 and 4 as local contribution funds.

3. Proposal

The additional scope is located in Alameda and Santa Clara Counties, which includes 4 miles of fiber optic cable along SR 92 in between I-880 and San Mateo Bridge Toll Plaza with one connection to an existing CCTV camera along this segment, 3.5 miles of fiber optic cable along I-880 between Dixon Landing Road and SR 237, SR 237 between I-880 and Zanker Road with two connections to existing CCTV cameras, and 4.5 miles of fiber optic cable on I-880 between SR 237 and US-101. Drawings depicting the work are attached.

4. Environmental Clearance

Caltrans is the lead agency for CEQA and NEPA for this project. Caltrans is currently preparing environmental document and is likely to be documented as an Initial Study under CEQA and Categorical Exclusion under NEPA.

5. Adequacy

This is a stand-alone project and no future improvements will be required for this project to be effective. Once this portion of the fiber optic loop is completed, the proposed redundancies will be in place and will ensure the continuity of the TMS. There will be a potential for locals to tie into our fiber communications infrastructure if they wish to do so.

6. Alternate Solution

There is no alternative solution to this cooperative agreement. This agreement is required to capture MTC's funding and complete the additional scope.

7. Participation

Caltrans is the lead and sponsoring agency for all phases of this project. MTC is contributing \$1.73 M to phase 0, \$10k to phase 1, \$0 to phase 2, \$1.058M to phase 3, and \$6.442M to phase 4 (funds for phases 3 and 4 will be added under a different Cooperative Agreement in 2022). The costs were determined by a consultant. Caltrans staff reviewed the estimate and provided concurrence. Additional funds for construction capital and support will be provided in the future.

Caltrans will be responsible for ownership, operation, and maintenance of all TMS features installed in this project.

8. Benefits

This Cooperative Agreement will help fund an expansion of scope that will provide higher quality CCTV camera footage to three different cameras and allow for more effective management of our highways. It will also save us from having to program a future project to install fiber optic cable within the limits shown in Attachment B.

9. Method of Accomplishment

Caltrans will perform all the engineering and design as well as construction engineering. The State will also bear the entire cost, except for the \$9.24M local contribution from MTC that is being added to the project through this Cooperative Agreement and future agreement for phases 3 and 4. The State will maintain the completed facilities and will also be responsible for maintenance costs incurred.

10. Recommendation

It is recommended that this Cooperative Agreement Report be approved, and authorization be granted to execute a Cooperative Agreement with Metropolitan Transportation Commission for a local contribution of \$1.74M in STP funds to project EA 04-2Q740. This Cooperative Agreement Report also will be the authorizing document for the future cooperative agreement for phases 3 and 4 with MTC.

11. List of Attachments

Attachment A – Draft Cooperative Agreement

Attachment B – Layouts of Additional Scope

Attachment C – MTC Funding Table

Attachment D – MTC Operations Committee Report

Attachment A

Draft Cooperative Agreement

COOPERATIVE AGREEMENT

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13. Neither MTC nor any officer or employee thereof is responsible for any injury, damage or liability occurring by reason of anything done or omitted to be done by CALTRANS, its contractors, sub-contractors, and/or its agents under or in connection with any work, authority, or jurisdiction conferred upon CALTRANS under this AGREEMENT. It is understood and agreed that CALTRANS, to the extent permitted by law, will defend, indemnify, and save harmless MTC and all of its officers and employees from all claims, suits, or actions of every name, kind, and description brought forth under, but not limited to, tortious, contractual, inverse condemnation, or other theories and assertions of liability occurring by reason of anything done or omitted to be done by CALTRANS, its contractors, sub-contractors, and/or its agents under this AGREEMENT.
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CONTACT INFORMATION

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The primary AGREEMENT contact person for CALTRANS is:

Muthanna Omran, Regional Project Manager

111 Grand Avenue

Oakland, CA 94612

Office Phone: (510) 286-5800

Mobile Phone: (510) 715-8212

Email: muthanna.omran@dot.ca.gov

The primary AGREEMENT contact person for MTC is:

Mario Ung, Associate Program Coordinator

375 Beale Street

San Francisco, CA 94105

Office Phone: (415) 778-6639

Email: mung@bayareametro.gov

SIGNATURES

PARTIES are empowered by the law to enter into this AGREEMENT and have delegated to the undersigned the authority to execute this AGREEMENT on behalf of the respective agencies and covenants to have followed all the necessary legal requirements to validly execute this AGREEMENT.

This AGREEMENT may be executed and delivered in counterparts, and by each PARTY in a separate counterpart, each of which when so executed and delivered shall constitute an original and all of which taken together shall constitute one and the same instrument.

The PARTIES acknowledge that executed copies of this AGREEMENT may be exchanged by facsimile or email and that such copies shall be deemed to be effective as originals.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

Helena (Lenka) Culik-Caro
Deputy District Director, Design

Verification of funds and authority:

Jeffrey Kuehnel
District Budget Manager

METROPOLITAN TRANSPORTATION COMMISSION

Therese W. McMillan
Executive Director

Attest:

Lisa Klein
Section Director, Field Operations and Asset
Management

Approved as to form and procedure:

Matthew Lavinets
Senior Counsel

Attachment B

Layouts of Additional Scope

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	N/A	3/15/2021
E-1	KWAIST AKWABI-AMEYAW, P.E.	CHECKED BY	N/A	N/A	N/A

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER DATE

PLANS APPROVAL DATE

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KIMLEY-HORN AND ASSOC.
1300 CLAY STREET
SUITE 325
OAKLAND, CA 94612

METROPOLITAN
TRANSPORTATION COMMISSION
375 BEALE ST. #800,
SAN FRANCISCO, CA 94105

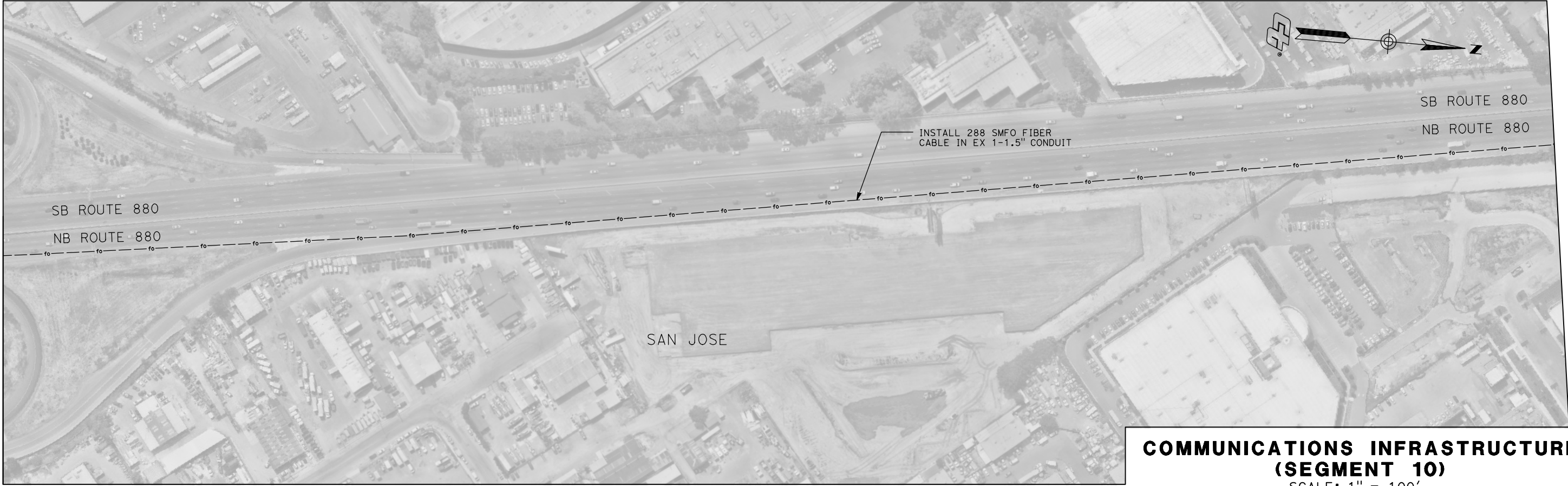
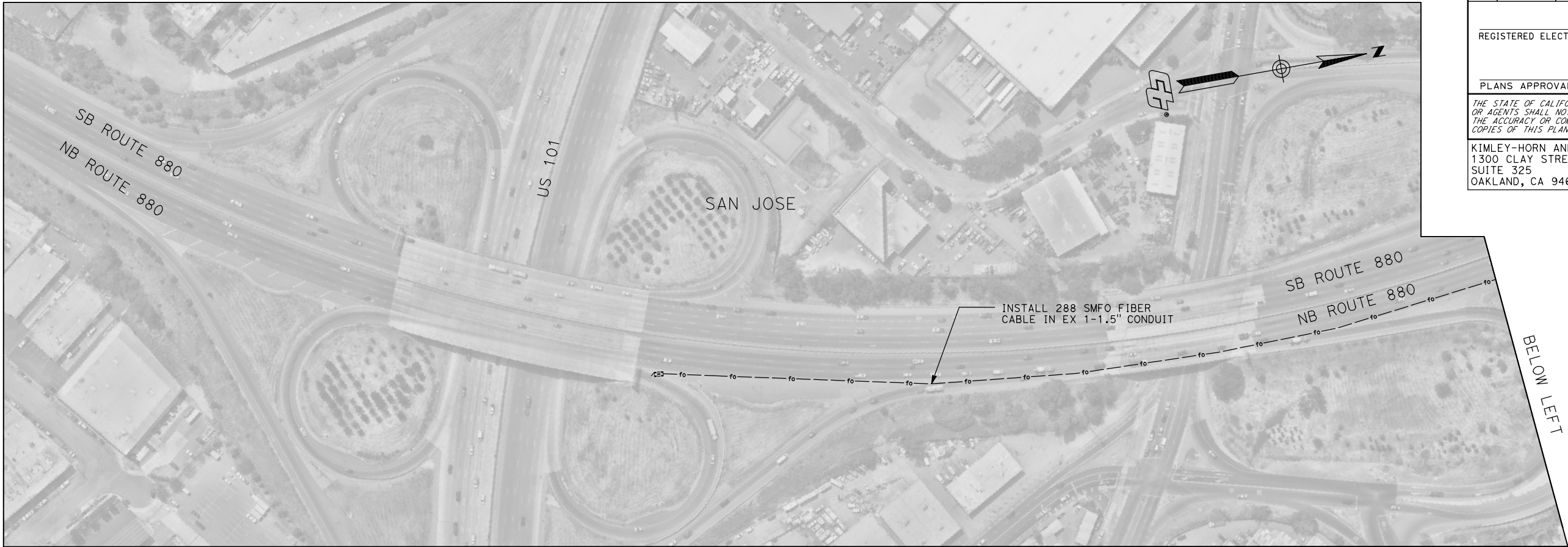
REGISTERED PROFESSIONAL ENGINEER

No. _____

Exp. _____

ELECTRICAL

STATE OF CALIFORNIA



COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 10)
SCALE: 1" = 100'

SEE SHEET E-2

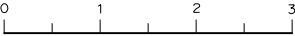
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07-24-20 | TIME PLOTTED => 11:06:21 AM

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E-2	KWAIST AKWABI-AMEYAW, P.E.	CHECKED BY	N/A	DATE REVISED	7/24/2020	

SEE SHEET E-1



COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 10)
SCALE: 1" = 100'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER DATE

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No.

Exp.

ELECTRICAL

STATE OF CALIFORNIA

SEE SHEET E-3

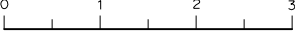
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	N/A	7/24/2020		
Caltrans®	KWAIST AKWABI-AMEYAW, P.E.	CHECKED BY	DATE REVISED	N/A			

BORDER LAST REVISED 6/25/2020

USERNAME => Darya.Shtykalo
DGN FILE => 03_S-10-3.dgn

RELATIVE BORDER SCALE
IS IN INCHES



UNIT 0727

PROJECT NUMBER & PHASE

N/A



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER DATE

PLANS APPROVAL DATE

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No. _____

Exp. _____

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STATE OF CALIFORNIA

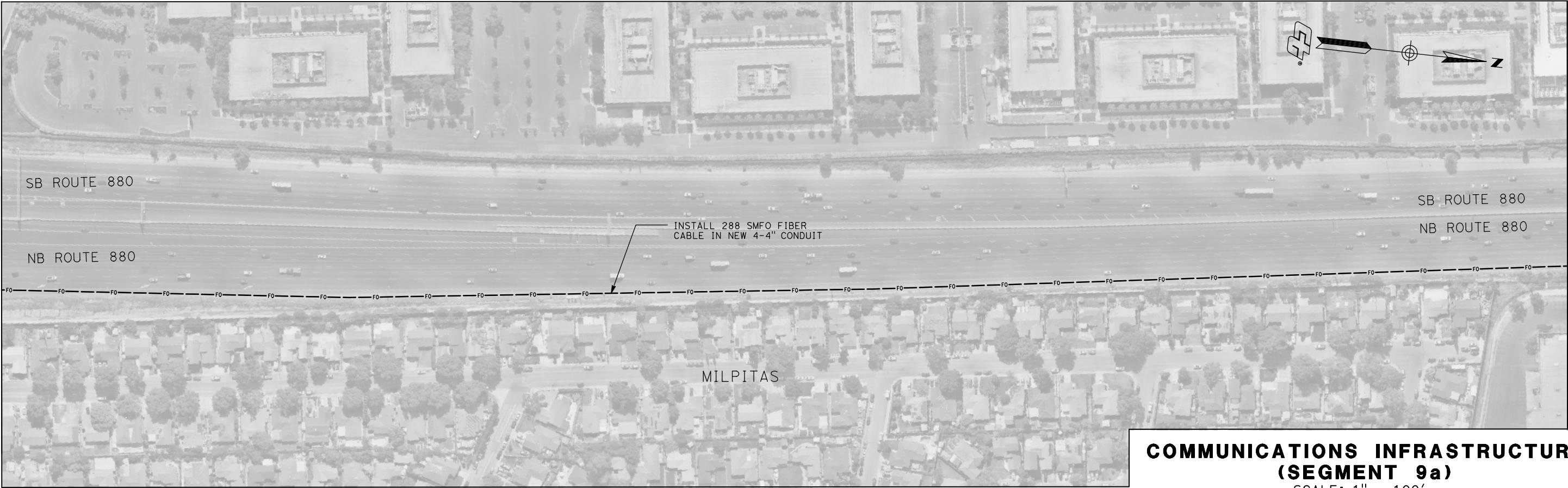
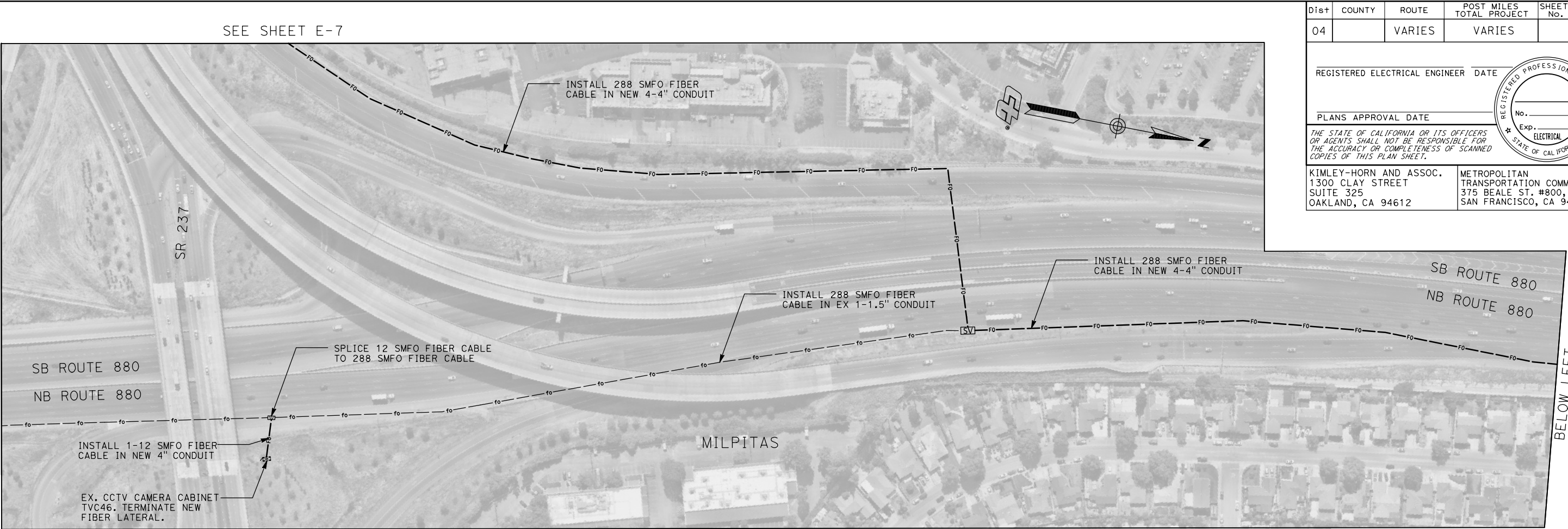
COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 10)
SCALE: 1" = 100'

E-3

LAST REVISION | DATE PLOTTED => 4/13/2021
07-24-20 | TIME PLOTTED => 11:06:35 AM

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E-5 Caltrans®	KWAJI AKWABI-AMEYAW, P.E.	CHECKED BY	N/A	DATE REVISED	7/24/2020	

SEE SHEET E-4



**COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 9a)**
SCALE: 1" = 100'

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER DATE

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Exp. _____

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STATE OF CALIFORNIA



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER

DATE

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No.

Exp.

ELECTRICAL

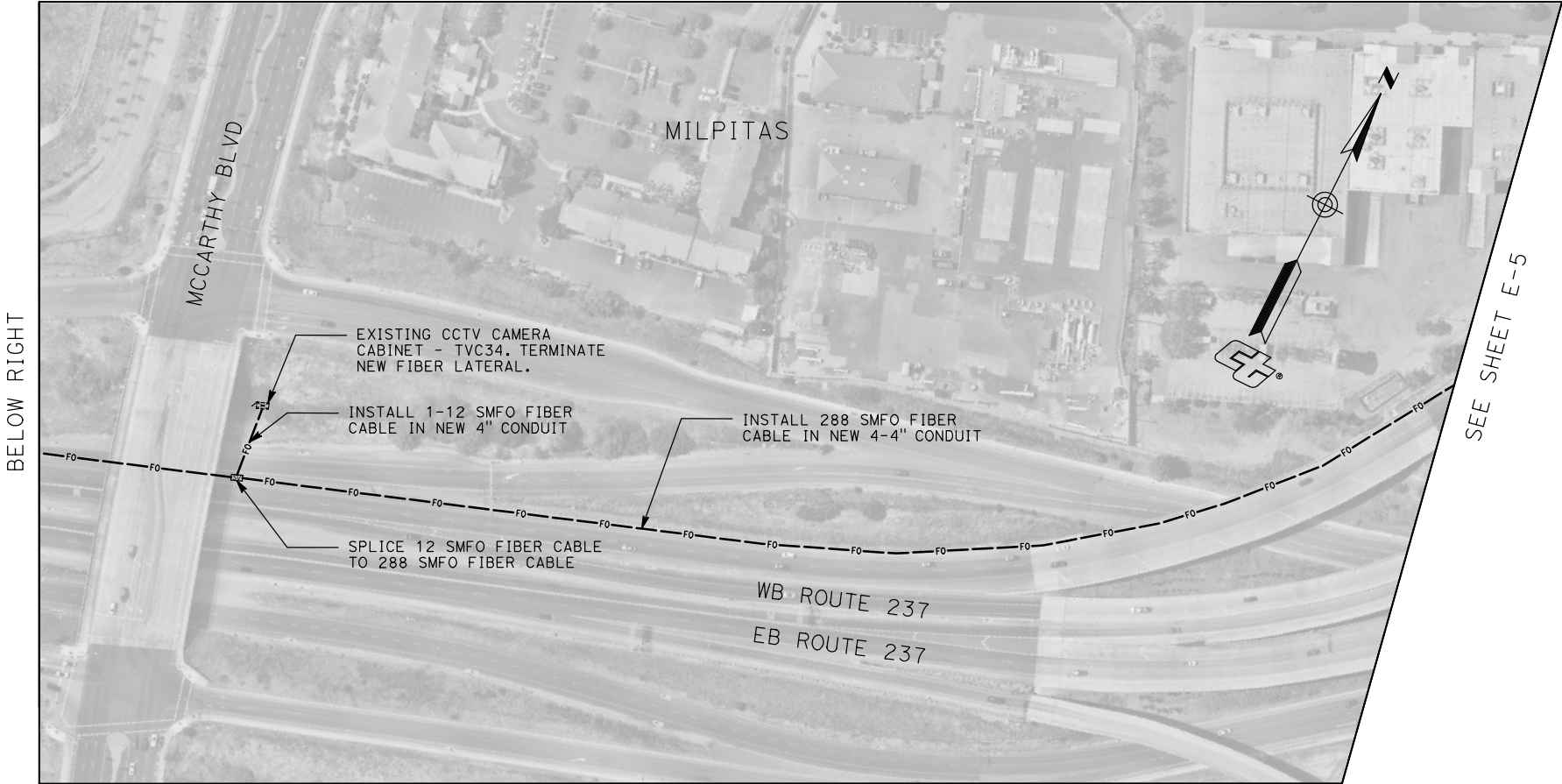
STATE OF CALIFORNIA



COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 9a)
SCALE: 1" = 100'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	N/A	7/24/2020
KIMLEY-HORN AND ASSOC.	KWASI AKWABI-AMEYAW, P.E.	CHECKED BY	N/A	N/A	N/A

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.

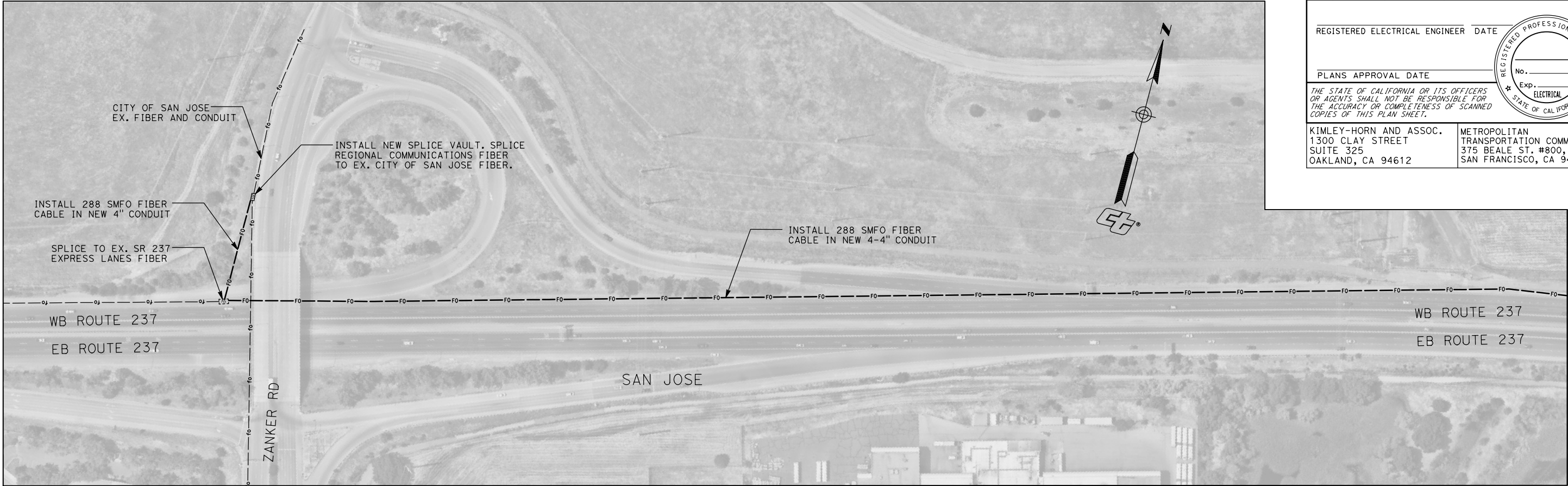


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#
REGISTERED ELECTRICAL ENGINEER			DATE		
PLANS APPROVAL DATE			No.		
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COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 9b)
SCALE: 1" = 100'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	N/A	7/24/2020
Caltrans®	KWAJI AKWABI-AMEYAW, P.E.	CHECKED BY	N/A	N/A	N/A

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#
REGISTERED ELECTRICAL ENGINEER			DATE		
PLANS APPROVAL DATE			No.		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.			Exp.		
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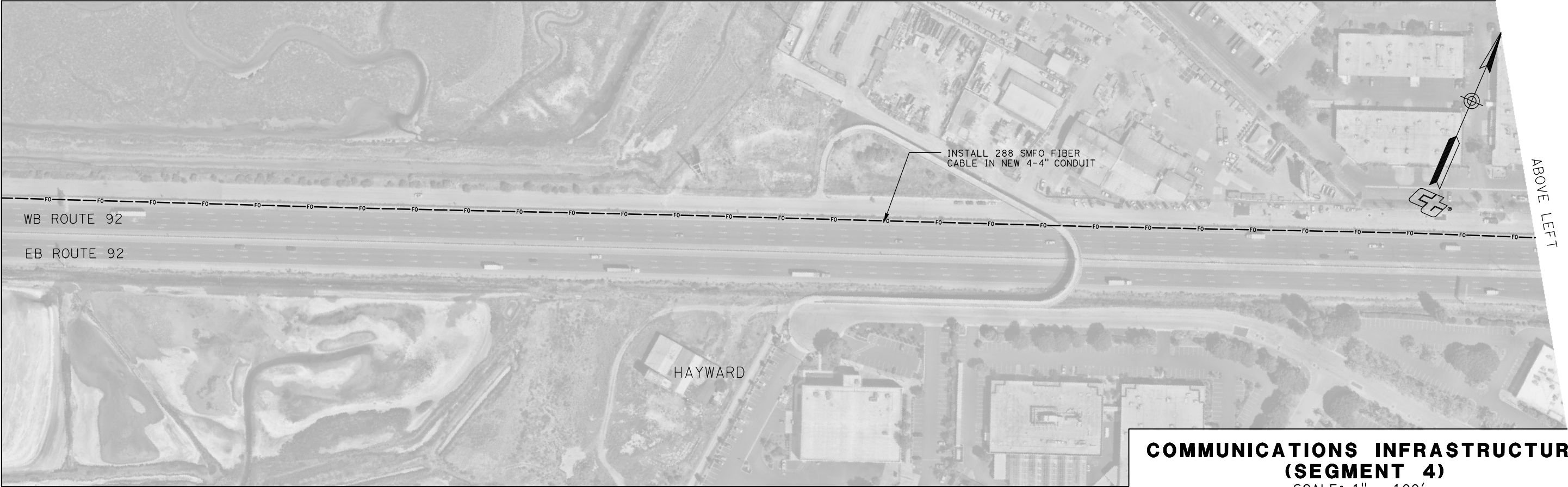
SEE SHEET E-7

COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 9b)
SCALE: 1" = 100'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION		CONSULTANT FUNCTIONAL SUPERVISOR		CALCULATED-DESIGNED BY		REVISED BY			
KIMLEY-HORN AND ASSOC.		KWAST AKWABI-AMEYAW, P.E.		CHECKED BY		N/A		N/A	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CONSULTANT FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	N/A	7/24/2020
EITCaltans	KWAIST AKWABI-AMEYAW, P.E.	CHECKED BY	DATE REVISED	N/A	N/A

BELOW RIGHT



COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 4)

SCALE: 1" = 100'

E-11

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04		VARIES	VARIES		#
REGISTERED ELECTRICAL ENGINEER			DATE		
PLANS APPROVAL DATE			No.		
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SEE SHEET E-10

SEE SHEET E-12

ABOVE LEFT

NOTE: DRAWINGS ARE FOR PLANNING PURPOSES ONLY. VERIFY DESIGN DETAILS DURING PS&E STAGE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04		VARIES	VARIES		#

REGISTERED ELECTRICAL ENGINEER

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SAN FRANCISCO, CA 94105

BELOW RIGHT

COMMUNICATIONS INFRASTRUCTURE
(SEGMENT 4)
SCALE: 1" = 100'

E-12

BORDER LAST REVISED 6/25/2020

USERNAME =>Darya.Shtykalo
DGN FILE => 12_N-4-4.dgn

RELATIVE BORDER SCALE
IS IN INCHES

0 1 2 3

UNIT 0727

PROJECT NUMBER & PHASE

N/A

SEE SHEET E-11

ABOVE LEFT

LAST REVISION | DATE PLOTTED => 4/13/2021
07-24-20 | TIME PLOTTED => 11:07:30 AM

Attachment C

MTC Funding Table

Phase	Description	MTC Funding
0	PA&ED	\$ 1,730,000.00
1	PS&E	\$ 10,000.00
2	R/W Support	\$ -
3	Construction Support	\$ 1,058,000.00
4	Construction Capital	\$ 6,442,000.00
9	R/W Capital	\$ -
Total		\$ 9,240,000.00

Attachment D

MTC Operations Committee Report

Metropolitan Transportation Commission Operations Committee

May 14, 2021

Agenda Item 4g

Master Cooperative Agreement- Funding between Metropolitan Transportation Commission and California Department of Transportation for Design Services for Interstate 880 (I-880) Fiber Communications Project (\$1,740,000)

Subject: Request for approval of a Master Cooperative Agreement with the California Department of Transportation for Design Services for I-880 Fiber Communications Project.

Background: MTC, in coordination with the California Department of Transportation (Caltrans), proposes fiber communications infrastructure improvements on the I-880 corridor. The project is along I-880 between Dixon Landing Road in Milpitas and US 101 in San Jose, and will install new fiber cable and conduit. The proposed project would also extend the existing fiber communications network along State Route 92 (SR 92) between I-880 and the San Mateo Bridge Toll Plaza, and along State Route 237 (SR 237) between I-880 and Zanker Road.

The proposed project helps the region progress toward the vision established by the Bay Area Regional Broadband Communications Strategic Investment Plan (2019) (Link following <https://mtc.ca.gov/sites/default/files/Regional%20Broadband%20Communications%20-%20Final%20Strategic%20Investment%20Plan.pdf>), presented to this Committee in October 2019, through the development of a robust and reliable regional communication network that will enable data and information sharing and facilitate the implementation of technology based congestion management strategies. As an important corridor serving three bridges, I-880 was identified as a priority to help build connectivity around the bay; additionally, the project builds on the fiber installation work of the I-880 Express Lanes project. This project will facilitate direct connections between Santa Clara Valley Transportation Authority headquarters in San Jose and the Caltrans District 4 Transportation Management Center, and provide reliable high-speed network access to closed-circuit television cameras on the I-880 and SR 237 corridors. This project will also provide significant infrastructure to support future expansion of the regional communications network to transportation assets such as the San Mateo Bridge, and US 101 and SR 237 Express Lanes.

There is an opportunity to achieve significant project efficiencies by coupling this project with a separate, larger fiber project that Caltrans is delivering, thereby eliminating the need for separate preliminary engineering evaluations and documentation. Additionally, timing is such that inclusion of the proposed project into the larger Caltrans project is aligned well as Caltrans has just begun some of their early project documentation efforts. Caltrans District 4 staff has consulted with their management, as well as Headquarters, and agrees there are significant project efficiencies and synergies to be gained by combining the projects.

Staff requests approval to enter into a Master Cooperative Agreement with Caltrans for the design phase of the project (i.e., project approval/environmental document, and Plans, Specifications, and Estimates), in an amount not to exceed \$1,740,000. In two years, staff will return to the Committee to request an amendment to the Master Cooperative Agreement for construction, for which MTC has secured \$7,500,000 in Federal funding.

Issues: None identified.


Recommendation: Staff recommends that the Operations Committee authorize the Executive Director or designee to negotiate and enter into a Master Cooperative Agreement with Caltrans, in an amount not to exceed \$1,740,000, to complete the design phase of the I-880 Fiber Communications project.

Attachments: None.


Therese W. McMillan

REQUEST FOR COMMITTEE APPROVAL

Summary of Proposed Cooperative Agreement

Work Item No.:	1223
Work Project Title:	Master Cooperative Agreement for Design Services for the I-880 Fiber Communications Project
Purpose of Project:	Support development of a robust and reliable regional communication network that will enable data and information sharing and facilitate the implementation of technology-based congestion management strategies.
Brief Scope of Work:	Complete the design phase for the project.
Project Cost Not to Exceed:	\$1,740,000
Funding Source:	Surface Transportation Program (STP)
Fiscal Impact:	Funding is included in the MTC FY 2020-2021 Budget
Motion by Committee:	That the Executive Director or designee is authorized to negotiate and enter into a Master Cooperative Agreement with Caltrans to complete the design phase for the I-880 Fiber Communications Project described above and in the Operations Committee Summary Sheet dated May 14, 2021 and that the Chief Financial Officer is authorized to set aside \$1,740,000 for such Master Cooperative Agreement.
Operations Committee:	 _____ Carol Dutra-Vernaci, Chair
Approved:	May 14, 2021

Request for Cooperative Agreement (RCA) Form

The purpose of the RCA form is to assist the District and the Local Partner with the development of the agreement terms and conditions. Once the RCA form is sufficiently filled out, an initial draft Coop can be produced by the District. Though the terms and conditions of an agreement can easily be documented, objections usually occur over specific language used in the Coop. To assure that the terms and conditions are portrayed properly, and to expose any discrepancy in language, the initial draft Coop will be submitted to the Local Partner for review and simultaneously be circulated for review within the District (not HQ). Only after the initial draft Coop has been returned to the District from the Local Agency with comments (if any), is the RCA considered complete and the Coop database can be updated with an "actual" RCA date.

Note: Grey boxes will expand when information is entered.

Date prepared: May 20, 2022

Prepared by: Mario Ung

Target Execution Date of Coop Agmt: December 2022

Estimated Completion Date of Project: June 2026

Project Information

District Coop Agreement Number: 04- TBD

County:

Alameda Route: SR-92 between I-880 and San Mateo Bridge Toll Plaza Post Mile: TBD

Alameda Route: I-880 between Dixon Landing Road and SR-237 Post Mile: TBD

Alameda Route: SR-237 between I-880 and Zanker Road Post Mile: TBD

Alameda Route: I-880 between SR-237 and US-101 Post Mile: TBD

Alameda Route: Post Mile: TBD

Alameda Route: Post Mile: TBD

EA (Expenditure Authorization): _____

E-FIS Project Number: _____

Agreement Type:

- ☐ Amendment to a Previous Agreement
Project Development Agreement (Select only the phases to cover under this Agmt.)
- ☐ (PSR/PR) PID
 - ☐ PA&ED
 - ☐ PS&E
 - ☐ R/W Capital
 - ☐ R/W Support *
 - ☒ Construction
- ☐ Mitigation Agreement (Use Mitigation RCA form)
- ☐ Contribution Agreement
- ☐ Relinquishment Agreement
- ☐ Betterment / Improvement Agreement

* If R/W Support is selected, and State funds are being contributed for use in R/W Support, the work must be done by Caltrans. The Local Agency can spend R/W Capital dollars. Check with R/W for additional clarification.

Caltrans Information

Contact Name: Muthanna Omran
Job Title: Project Manager
Street Address: 111 Grand Avenue
City: Oakland State: CA ZIP Code: 94612
Office Phone: () Mobile Phone: (510) 717-8212
Fax (optional): ()
Email Address: muthanna.omran@dot.ca.gov

Local Agency Information

Is there more than one Local Agency involved? Yes ☐ No ☒
(If yes, complete the information below for each Local Agency)

Official Name: Metropolitan Transportation Commission
AKA: MTC
Contact Name: Mario Ung Job Title: Associate Program Coordinator
Street Address: 375 Beale Street
City: San Francisco State: CA ZIP Code: 94105
Office Phone: (415) 778-6639 Mobile Phone: (408) 372-7005
Fax (optional): ()
Email Address: mung@bayareametro.gov

Billing contact information (only fill out if different from above):

Contact Name/Department:
Street Address:
City: State: CA ZIP Code:
Office Phone: ()
Email Address: acttpay@bayareametro.gov

Who will approve this Agreement for Local Agency?

Name: Therese W. McMillan
Title: Executive Director

Who will witness or attest on behalf of the Local Agency?

Name:
Title:

Attorney for Local Agency?

Name: Matthew Lavrinets
Title: Senior Counsel

Agreement Information

Project description: *Even if this agreement is only for part of a phase of work, please describe the PROJECT that is proposed to be built.*

The Project consists of design and implementation of transportation management systems on existing and new communication infrastructures along I-880, SR-92, and SR237. The Project upgrades existing communication network with replacement of fiber lines at listed locations, install new fiber lines,

upgrades software & hardware for network connection. The Project provides reliable communication network infrastructure that enables real-time data sharing between the transportation management system (TMS) and the Caltrans transportation management center (TMC) through the implementation of the transportation systems management and operations (TSMO).

Deliverables completed:

(Check all that apply)

- ☐ Project Initiation Document
- ☐ Project Report
- ☐ Environmental Document
- ☐ Plans, Specifications and Estimate
- ☐ Right of Way Certification
- ☒ Other (explain below)

Completed by (Caltrans or Local Agency)?

Caltrans Local Agency

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Previous cooperative agreements for this PROJECT: (agreement numbers and phase)

Coop No.: 0419000044 Phase: PA/ED, PS&E

Coop No.: _____ Phase: _____

Coop No.: _____ Phase: _____

What is going to be exchanged under this agreement?

(Check all that apply)

- ☒ Effort (IQA or reimbursable activities both require Effort to be selected)
- ☐ R/W Capital Funding
- ☐ R/W Support Funding *
- ☒ Construction Capital Funding
- ☒ Construction Support Funding
- ☐ Property (land)**
- ☐ Material (raw material or improvements)**
- ☐ Other _____

* If R/W Support is selected, and there is State dollars in R/W Support, then the work must be done by Caltrans. The Local Agency can spend R/W Capital dollars. Check with R/W for additional clarification.

** Clearly describe intent and need in the "Special Arrangement" section (page 10 of 10)

Responsibilities

Sponsor(s) – The party responsible for fully funding all commitments under this agreement. (If more than one Sponsor, indicate the percent distribution. The total sum must equal 100%).

- ☒ Caltrans 11.47 % Per discussion, CT is researching options to meet matching fund requirements
- ☒ Local Agency 88.53 %

Implementing Agency – The party responsible for managing the scope, cost, and schedule of this agreement. (Select only the phases to cover under this Agmt and only one partner for each phase)

	Caltrans	Local Agency
PID	<input type="checkbox"/>	<input type="checkbox"/>
PA&ED	<input type="checkbox"/>	<input type="checkbox"/>
PS&E	<input type="checkbox"/>	<input type="checkbox"/>
R/W	<input type="checkbox"/>	<input type="checkbox"/>
CON	<input checked="" type="checkbox"/>	<input type="checkbox"/>

PA&ED - Environmental and Permits

(Select one party per lead responsibility.)

	Caltrans	Local Agency	FHWA	FTA
CEQA Lead*	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
NEPA Lead (if applicable)	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

* If Local Agency is selected as CEQA lead, a delegation letter from the District Director must be issued.

Will the NEPA documentation be an Environmental Impact Statement (EIS)?

Yes ☐ No ☒ N/A ☐

Resource Agency Permits

(Insert either CT or LA on all cells for permit/agreement/approvals that are required for PROJECT. If not required, check the N/A box. Those boxes identified as CT can only be performed by Caltrans.)

Permit/Approval	N/A	Coordinate	Prepare	Obtain	Implement	Renew	Amend
404 USACOE	<input checked="" type="checkbox"/>						
401 RWQCB	<input type="checkbox"/>	CT	CT				
NPDES SWRCB	<input checked="" type="checkbox"/>						
State Waste Discharge Requirements (Porter Cologne) RWQCB	<input checked="" type="checkbox"/>						
FESA Section 7 USFWS	<input type="checkbox"/>	CT	CT				
BO Section 7 USFWS	<input type="checkbox"/>	CT	CT				
FESA Section 7 NOAA/NMFS	<input type="checkbox"/>	CT	CT				
BO Section 7 NOAA/NMFS	<input type="checkbox"/>	CT	CT				
FESA Section 10 USFWS	<input type="checkbox"/>	CT	CT				
EFH - NOAA/NMFS	<input checked="" type="checkbox"/>						
Coastal Development Permit CCC	<input type="checkbox"/>	CT	CT				
Fed. Coastal Zone Mgt. Act – Consistency Determination CCC	<input checked="" type="checkbox"/>						
BCDC Permit	<input type="checkbox"/>	CT	CT				
Fed. Coastal Zone Mgt. Act – Consistency Determination BCDC	<input checked="" type="checkbox"/>						
1602 DFG	<input checked="" type="checkbox"/>						
2080.1 DFG	<input checked="" type="checkbox"/>						
2080(B) DFG	<input checked="" type="checkbox"/>						
Air Quality Permits	<input checked="" type="checkbox"/>						
Other (specify)	<input checked="" type="checkbox"/>						

USACOE = United States Army Corps of Engineers (Federal)

RWQCB = Regional Water Quality Control Board (California)

NPDES = National Pollutant Discharge Elimination System (Federal)

SWRCB = State Water Resources Control Board (California)

USFWS = United States Fish and Wildlife Service (Federal)

NOAA = National Ocean and Atmospheric Administration (Federal)

NMFS = Nation Marine Fisheries Service (Federal)

BCDC = Bay Conservation and Development Commission (local to S.F. Bay Area)

DFG = Department of Fish and Game (California)
EFH = Essential Fish Habitat

Right of Way

Who will make the necessary arrangements for the accommodation, protection, relocation, or removal of any existing utility facilities? Caltrans ☒ Local Agency ☐

Will the California Transportation Commission hear the Resolutions of Necessity? Yes ☐ No ☒*

**If Local Agency intends to hear Resolutions of Necessity (RON's) on the local level (as opposed to having the CTC hear the RON's), District must obtain a delegation letter from the HQ Division Chief of Right of Way that acknowledges the Local Agency will hear Resolutions of Necessity on the local level.*

Construction

Will the construction contract involve landscaping? Yes ☒ No ☐
(minor)

Construction contract changes will be implemented by contract change orders (CCO). Partners will review and concur on all CCO's over \$ 50,000.
(Typically, \$50,000 is used for the above amount)

Will there be any State Furnished Materials (SFM) necessary on this PROJECT?

TBD Yes ☒ No ☐

If yes, who is paying for the SFM?

Caltrans ☒
Local Partner ☐
Project Cost ☐

Is a Traffic Management Plan (TMP) needed? Yes ☒ No ☐

Is a Construction Zone Enhanced Enforcement Program (COZEEP) needed? Yes ☐ No ☒
TBD – pending on physical limitations

Maintenance

Describe the maintenance arrangement required as a result of the project:

- ☐ Partners will amend an existing maintenance agreement
- ☐ An existing maintenance agreement exists and will NOT require amendment
- ☐ Partners will execute a new maintenance agreement
- ☒* Caltrans will assume full responsibility for maintenance after work is complete

** Typically the case when partner is a Transportation Authority*

Are there traffic signals? Yes ☐ No ☒

Describe any special maintenance arrangements that need to be documented:

Operation & Maintenance agreement of the field infrastructure

Operation & Management agreement of the data, software, and network

Scope Summary / Delegation of Activities

What work is being done in this agreement, and **Who** is doing it?

(If any of the activities below are shared, check all the appropriate parties and define the arrangement in the Notes section on the next page.)

	WBS Code (v10.1)	Workplan Standards Guide for the Delivery of Capital Projects - Activity Description	Who is doing the work?			
			Caltrans	Local Agency 1	Local Agency 2	N/A
Environmental (PA&ED)	2.160	Perform preliminary engineering studies and draft project report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.165	Perform environmental studies and prepare draft environmental document	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.170	Permits, Agreements, and Route Adoptions during PA&ED component	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.175	Circulate draft environmental document and select preferred project alternative identification	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2.180	Prepare and approve project report and final environmental document	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design (PS&E)	3.185	Prepare base maps and plan sheets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.205	Obtain permits and agreements during PS&E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.230	Prepare draft PS&E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.235	Mitigate environmental impacts and clean up hazardous waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.240	Draft structures PS&E	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.250	Prepare final structures PS&E package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.255	Circulate, review and prepare final district PS&E package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3.260	Contract bid documents “ready to list”	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Right of Way (R/W)	4.195	Right of way property management and excess land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.200	Utility relocation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.220	Perform right of way engineering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.225	Obtain right of way interests for project right of way certification*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.245	Post right of way certification work*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4.300	Perform final right of way engineering activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	WBS Code (v10.1)	Workplan Standards Guide for the Delivery of Capital Projects - Activity Description	Who is doing the work?			
			Caltrans	Local Agency 1	Local Agency 2	N/A
Construction	3.265	Awarded and approved construction contract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.270	Construction engineering and general contract administration**	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.275	Construction Engineering and General Contract Administration of Structures Work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.285	Contract change order administration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.290	Resolve contract claims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5.295	Accept contract/ prepare final construction estimate and final report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**If Local Agency intends to hear Resolutions of Necessity (RONs) on the local level (as opposed to having the CTC hear the RONs), District must obtain a delegation letter from the Division Chief of Right of Way that acknowledges the Local Agency will hear Resolutions of Necessity on the local level.*

*** If Local Agency is selected to perform source inspection (WBS 5.270.35.20), Local Agency must seek an exception from Caltrans METS before an encroachment permit will be issued.*

Describe any activities that will be shared and identify those WBS codes to Level 7:
Caltrans design team to prepare project estimates and cost breakdown.

Scheduling

Describe any special schedule conditions or restraints that need to be documented:

Federal Funding expenditure deadlines

- Federal STP-OBAG – PE phase – 3/31/2024

Federal Funding expenditure deadlines

- Federal STP-OBAG – CON/CE phase – programmed year: FY23

Funding Information

FMS screenshot TO BE DELETED AFTER REVIEW

\$1.84M – \$1.74M for Caltrans; MTC retains \$100k

\$7.6M – \$7.5M for Caltrans; MTC retains \$100k

Fund Code	Phase	Appn Year	Program Year	Preg Amount	Fund No	Dist	EANO	PPNO	CTC Allocation Date	CTC Allocation Amount	Prefix	Fed Proj ID	FHWA Authorization Date	FHWA Authorization Amount
BT-RM1	CON		2017	90,000										
STP-T5-OBAG2-REG-AOM	CON	2023	2023	1,600,000										
STP-T5-OBAG2-REG-AOM	CON	2023	2023	6,000,000										
STP-T5-OBAG2-REG-AOM	PE	2022	2023	3,000,000		04					STPL			
STP-T5-OBAG2-REG-AOM	CON	2018	2018	2,910,000		04	0417000539L				STPLNI	6084212	12/06/2017	2,910,000
STP-T5-OBAG2-REG-AOM	CON	2018	2018	1,150,000		04	0418000278L				STPL	6084225	01/31/2018	1,150,000
STP-T5-OBAG2-REG-AOM	PE	2018	2018	2,500,000		04	0418000366L				STPL	6084235	04/26/2018	2,500,000
STP-T5-OBAG2-REG-AOM	PE	2021	2021	1,740,000		04	0419000044L				STPL	6204134	08/03/2021	1,740,000
STP-T5-OBAG2-REG-AOM	PE	2021	2021	100,000		04	0421000395L				STPL	6084269	08/03/2021	100,000

Fund Type <i>match:_(type)</i>	Fund Source	PID	PA&E D	PS&E	R/W Capital	* R/W Support	CON Capital	CON Support	Total
Tax Measure	Local								
Local Funds	Local								
STIP/RIP	State								
STIP/IIP	State								
SHOPP	State								
Minor A Funds	State								
Minor B Funds	State								
TCRP	State								
Bond-CMIA	State								
ARRA Local	Federal								
ARRA State	Federal								
CMAQ	Federal								
<i>match:toll credit</i>									
DEMO-HPP	Federal								
<i>match:</i>									
RSTP	Federal								
<i>match:</i>									
STIP/TEA	State								
<i>match:</i>									
TE	Federal								
<i>match:</i>									
Other:	Local								
Other:	Local								
Other:	State								
Other:	State								
Other: OBAG	Federal	*	*	\$1,740,000			\$7,500,000	**	\$9,240,000
<i>match:</i>									
Total				\$1,740,000			\$7,500,000		\$9,240,000

NOTE: Funding should correspond with all phases that are selected for this agreement.

If R/W Support is selected, and there is State dollars in R/W Support, then the work must be done by Caltrans. The Local Agency can spend State dollars for R/W Capital. Check with R/W for additional clarification.

*** \$1.74M includes PID, PA/ED, PS&E**

**** \$7.5M includes CON and CE**

Billing Arrangements

Does Local Partner have Electronic Fund Transfer (EFT) privileges: YES ☐ NO ☒

NOTE: All funds will be spent proportionally. To spend funds sequentially, District must receive an exception from Division Chief of Budgets.

Identify the type of billing arrangement for each phase (*attach additional sheet if necessary*)

Phase: **PSR/PR**

☐ Lump Sum Payment*:

Single Payment ☐

Installments ☐ \$ ____ per month for ____ months.

**Lump Sum payments and advances are highly restricted by HQ Accounting. Verify with HQ Accounting that Lump Sum and advances are appropriate for this agreement prior to committing on this RCA.*

☒ Actual Expenditures**:

Deposit for Support \$ TBD per progress

Deposit for Capital \$ TBD per progress

***Actual Expenditures means that one or both partners will bill as the work is being performed.*

Phase: **PA/ED**

☐ Lump Sum Payment*:

Single Payment ☐

Installments ☐ \$ ____ per month for ____ months.

**Lump Sum payments and advances are highly restricted by HQ Accounting. Verify with HQ Accounting that Lump Sum and advances are appropriate for this agreement prior to committing on this RCA.*

☒ Actual Expenditures**:

Deposit for Support \$ TBD per progress

Deposit for Capital \$ TBD per progress

***Actual Expenditures means that one or both partners will bill as the work is being performed.*

Phase: ____

☐ Lump Sum Payment:

Single Payment ☐

Installments ☐ \$ ____ per month for ____ months.

☐ Actual Expenditures:

Deposit for Support \$ ____

Deposit for Capital \$ ____

Phase: ____

☐ Lump Sum Payment:

Single Payment ☐

Installments ☐ \$ ____ per month for ____ months.

☐ Actual Expenditures:

Deposit for Support \$ ____

Deposit for Capital \$ ____

Special Arrangements - Additional questions, comments, concerns and commitments

Describe any special arrangements that need to be documented:

None

Non-Standard Language

Is any non-standard language or proposed modifications to policy being advanced?

Yes ☐ No ☒

If yes,

Does the District Functional Unit concur with the proposed modification/change?*

Yes ☐ No ☐ n/a

Has the District Functional Unit contacted the corresponding HQ Functional Unit and received approval for use of non-standard language?*

Yes ☐ No ☐ n/a

**All proposed changes to standard language must be concurred by the District Functional Unit and approved by the corresponding HQ Functional Unit to be fully adopted into a Coop. Otherwise an exception needs to be obtained, or the arrangement needs to be changed.*

List any and all standard language that the District/Local Agency is seeking to have modified: (use additional sheets if necessary).

none

Attachment I

Transportation Management Plan Data Sheet

TRANSPORTATION MANAGEMENT PLAN DATA SHEET

(Preliminary TMP Elements and Costs)

Co/Rte/PM	Ala, SF, SM, SCI (VAR) EA	04-2Q7400	Project	Van Hew
Project Limit	VAR	ID 0419000044	Engineer	
Project Description	The purpose of the project is to install Traffic Management System elements to improve traffic congestion in Alameda, San Francisco, San Mateo, and Santa Clara Counties on Routes 80, 92, 101, 237, 880/880s, and 980 at various locations.			

1) Public Information

<input type="checkbox"/>	a. Brochures and Mailers	\$
<input type="checkbox"/>	b. Press Release	\$
<input type="checkbox"/>	c. Paid Advertising	\$
<input type="checkbox"/>	d. Public Information Center/Kiosk	\$
<input type="checkbox"/>	e. Public Meeting/Speakers Bureau	\$
<input type="checkbox"/>	f. Telephone Hotline	\$
<input type="checkbox"/>	g. Internet/Project web-site/Social media/ E-mail	\$
<input type="checkbox"/>	h. Notification to impacted groups (i.e. bicycle users, pedestrians with disabilities, others...)	\$
<input checked="" type="checkbox"/>	i. Others <u>As determined by PIO</u>	\$10,000

2) Motorists Information Strategies

<input type="checkbox"/>	a. Changeable Message Signs (Fixed)	\$
<input checked="" type="checkbox"/>	b. Changeable Message Signs (Portable)	\$210,000
<input type="checkbox"/>	c. Ground Mounted Signs	\$
<input type="checkbox"/>	d. Highway Advisory Radio	\$
<input type="checkbox"/>	e. Caltrans Highway Information Network (CHIN)	\$
<input type="checkbox"/>	f. Detour maps (i.e.bicycle, vehicle, pedestrian...etc)	\$
<input type="checkbox"/>	g. Revised Transit Schedules/maps	\$
<input type="checkbox"/>	h. Bicycle community information	\$
<input type="checkbox"/>	i. Others _____	\$

3) Incident Management

<input checked="" type="checkbox"/>	a. Construction Zone Enhanced Enforcement Program (COZEEP)	\$725,000
<input type="checkbox"/>	b. Tow/ Freeway Service Patrol (including admin cost, contingency & CHP dispatch)	\$
<input type="checkbox"/>	c. Traffic Management Team (State Force)	\$
<input type="checkbox"/>	d. Helicopter Surveillance	\$
<input type="checkbox"/>	e. Traffic Surveillance Stations (Loop Detector and CCTV)	\$
<input type="checkbox"/>	f. Others _____	\$

TMP Data Sheet (cont.)

4) Construction Strategies

<input type="checkbox"/>	a. Lane Closure Chart	\$
<input type="checkbox"/>	b. Reversible Lanes	\$
<input type="checkbox"/>	c. Total Facility Closure	\$
<input type="checkbox"/>	d. Contra Flow	\$
<input type="checkbox"/>	e. Truck Traffic Restrictions	\$
<input type="checkbox"/>	f. Reduced Speed Zone	\$
<input type="checkbox"/>	g. Connector and Ramp Closures	\$
<input type="checkbox"/>	h. Incentive and Disincentive	\$
<input type="checkbox"/>	i. Moveable Barrier	\$
<input checked="" type="checkbox"/>	j. Maintain Traffic	\$100,000
<input type="checkbox"/>	k. Others _____	\$

5) Demand Management

<input type="checkbox"/>	a. HOV Lanes/Ramps (New or Convert)	\$
<input type="checkbox"/>	b. Park and Ride Lots	\$
<input type="checkbox"/>	c. Rideshare Incentives	\$
<input type="checkbox"/>	d. Variable Work Hours	\$
<input type="checkbox"/>	e. Telecommute	\$
<input type="checkbox"/>	f. Ramp Metering (Temporary Installation)	\$
<input type="checkbox"/>	g. Ramp Metering (Modify Existing)	\$
<input type="checkbox"/>	h. Others _____	\$

6) Alternate Route Strategies

<input type="checkbox"/>	a. Add Capacity to Freeway Connector	\$
<input type="checkbox"/>	b. Street Improvement (widening, traffic signal... etc)	\$
<input type="checkbox"/>	c. Traffic Control Officers	\$
<input type="checkbox"/>	d. Parking Restrictions	\$
<input type="checkbox"/>	e. Others _____	\$

7) Other Strategies

<input type="checkbox"/>	a. Application of New Technology	\$
<input type="checkbox"/>	b. Others _____	\$

TOTAL ESTIMATED COST OF TMP ELEMENTS = \$1,045,000.00

*Please note that any change in project scope, schedule, or cost will require re-submittal of TMP Data Sheet request.

PREPARED BY Michelle Chui DATE 6/22/2021

APPROVAL RECOMMENDED BY Chung Ly DATE 6/22/2021

Attachment J

**SHOPP Project – Accomplishment –
Performance Measures – Benefits**

SHOPP Project - Accomplishment - Performance Measures - Benefits

District: 04

Tool ID: 16829

Project ID: 0419000044

EA: 2Q740

Co-Rte-PM: All Locations

View/Print PIR (Performance) Report

Bridge

Pavement

Drainage

Facilities

Safety, Signs & Lighting

Mobility

Roadside

Complete Streets

Sustainability /Climate Change

Advance Mitigation /Mitigation

Major Damage & Betterments

Green-house Gases

Relinquishment

Performance & Accomplishments (PRG)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	1.000	1.000				1.000							Replace the existing one
2	F03	CCTV (201.315)	No Performance Objective in the SHSMP	Each	45.000	8.000			37.000	8.000							
3	F04	Communications (Fiber Optics - 201.315)	No Performance Objective in the SHSMP	Linear Miles	30.700				30.700								
4	F05	Vehicle Detection (201.315)	No Performance Objective in the SHSMP	Each	33.000	13.000			20.000	13.000							
5	F06	Ramp Meter (201.315)	No Performance Objective in the SHSMP	Each	5.000	2.000			3.000	2.000							
6	F45	TMS Structure Component	Transportation Management System Structures	Each	60.000				60.000								
7	F46	TMS Technology Component	Transportation Management Systems	Each	84.000	24.000			60.000	24.000							
8	H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	No												No
9	H55	Complete Streets Not Applicable (1,2,3)	TMS	1,2,3													Scope not suitable.
10	N01	Qualitative	No Performance Objective in the SHSMP	-													Use materials within a local radius

(Last Saved - 08/17/21 @ 11:08 AM by AMT Admin)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.315	Mobility - TMS	Primary	TMS	84.0	Field element(s)	Field element(s)	100.0%	0.0%	0.0%	24.0	28.6%	71.4%	100.0%	0.0%	0.0%	84.0

- Notes:
- The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify AM Tool admins via e-mail at CT-TAM@dot.ca.gov.
 - The data summarized in the table represents the performance reported or to be reported in CTIPS.
 - Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary Asset Classes.
 - Reporting of bridge pre and post conditions may contain errors if the project RTL is before 2024/25.
 - Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
 - Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the AM Tool will change.
 - During the transition to the new Proactive Safety objective, the performance output for projects with a primary activity category of Proactive Safety (under program codes 015, 112, or 235) will continue to be presented here in the units of measure corresponding to the activities historically reported to date. A change in units to "Annual Fatal and Serious Injury Collisions" for future programming requests is being planned.

District: 04

Tool ID: 16829

Project ID: 0419000044

EA: 2Q740

Co-Rte-PM: All Locations

View/Print PIR (Performance) Report

Bridge

Pavement

Drainage

Facilities

Safety, Signs & Lighting

Mobility

TMS

Roadside

Complete Streets

Sustainability /Climate Change

Advance Mitigation /Mitigation

Major Damage & Betterments

Green-house Gases

Relinquishment

Performance & Accomplishments (PPC)

	ActID	Activity Detail	Performance Objective	Unit of Measurement	Quantity	Pre-Good	Pre-Fair	Pre-Poor	New	Post-Good	Post-Fair	Post-Poor	HQ Program Review - Agree with District?	HQ Comment	Review Date	Performance Change Date After Review	Comment
1	F02	Changeable Message Sign (201.315)	No Performance Objective in the SHSMP	Each	1.000				1.000								
2	F03	CCTV (201.315)	No Performance Objective in the SHSMP	Each	45.000				45.000								
3	F04	Communications (Fiber Optics - 201.315)	No Performance Objective in the SHSMP	Linear Miles	30.700				30.700								
4	F05	Vehicle Detection (201.315)	No Performance Objective in the SHSMP	Each	33.000				33.000								
5	F06	Ramp Meter (201.315)	No Performance Objective in the SHSMP	Each	5.000	1.000		1.000	3.000	2.000							
6	F45	TMS Structure Component	Transportation Management System Structures	Each	82.000				82.000								
7	F46	TMS Technology Component	Transportation Management Systems	Each	84.000	1.000		1.000	82.000	2.000							
8	H32	Is any Location Within the Project Limits Ped/Bike Accessible?	No Performance Objective in the SHSMP	Yes/No	No												No
9	H55	Complete Streets Not Applicable (1,2,3)	TMS	1,2,3													Scope not suitable.
10	N01	Qualitative	No Performance Objective in the SHSMP	-													Use materials within a local radius

(Last Saved - 08/17/21 @ 10:59 AM by AMT Admin)

Programming Performance Summary (All Locations)

Program Code	Activity Category	Asset Class	Asset	Performance Value	Performance Measure	Unit	Pre-Good	Pre-Fair	Pre-Poor	Pre-Total	Post Good	New	Post Good+New	Post-Fair	Post-Poor	Post-Total
201.315	Mobility - TMS	Primary	TMS	84.0	Field element(s)	Field element(s)	50.0%	0.0%	50.0%	2.0	2.4%	97.6%	100.0%	0.0%	0.0%	84.0

- Notes:
- The crosswalk for reporting performance in the "Programming Performance Summary" was developed to assist the districts on performance reporting requirements for CTC and PCRs. For discrepancies or errors, please notify AM Tool admins via e-mail at CT-TAM@dot.ca.gov.
 - The data summarized in the table represents the performance reported or to be reported in CTIPS.
 - Programming only requires the breakdown of Good, Fair and Poor for Primary and Supplementary Asset Classes.
 - Reporting of bridge pre and post conditions may contain errors if the project RTL is before 2024/25.
 - Reporting drainage pre-total and post good may differ whenever projects contain abandoned/removed culverts as the culvert no longer exists at post construction, is deleted from the pre-total value for posting of the post good value, and gets deleted from the statewide CIP inventory database.
 - Reactive Safety projects will temporally use the same performance outputs of Safety Improvement projects. When the reporting requirements for CTC changes, the logic in the AM Tool will change.
 - During the transition to the new Proactive Safety objective, the performance output for projects with a primary activity category of Proactive Safety (under program codes 015, 112, or 235) will continue to be presented here in the units of measure corresponding to the activities historically reported to date. A change in units to "Annual Fatal and Serious Injury Collisions" for future programming requests is being planned.

Attachment K

Preliminary Cost Estimate

PROJECT
PLANNING COST ESTIMATE©

EA: 04-2Q7400

EA: 04-2Q7400 PID: 0419000044

PID: 0419000044

District-County-Route: 04-Var-Var

PM: Var

Type of Estimate : Project Report (PR)

Program Code : SHOPP 201.315 (Transportation Management Systems)

Project Limits : Ala, SF, SM, SCI - 80, 92, 101, 237, 880/880s, 980 - Var

Project Description: Install Transportation Management System

Scope : Fiber Optic Systems, Ramp Meters, CCTV, TMS, VDS, CMS, and MVP

Alternative : Build Alternative

SUMMARY OF PROJECT COST ESTIMATE

	Current Year Cost	Escalated Cost
TOTAL ROADWAY COST	\$ 79,152,800	\$ 85,202,894
TOTAL STRUCTURES COST	\$ -	\$ -
SUBTOTAL CONSTRUCTION COST	\$ 79,152,800	\$ 85,202,894
TOTAL RIGHT OF WAY COST	\$ 318,600	\$ 318,600
TOTAL CAPITAL OUTLAY COSTS	\$ 79,472,000	\$ 85,522,000
PA/ED SUPPORT	\$ 3,885,000	\$ 3,885,000
PS&E SUPPORT	\$ 10,968,000	\$ 10,968,000
RIGHT OF WAY SUPPORT	\$ 128,385	\$ 128,385
CONSTRUCTION SUPPORT	\$ 12,129,000	\$ 12,129,000
TOTAL SUPPORT COST	\$ 27,111,000	\$ 27,111,000
TOTAL PROJECT COST	\$ 107,000,000	\$ 113,000,000 *

Programmed Amount \$ 112,389,000

Date of Estimate (Month/Year) Month / Year
7 / 2022

Estimated Construction Start (Month/Year) 2 / 2024

Number of Working Days = 425*

*The proposed accelerated schedule can only be met if the project is split into smaller projects via a PCR during the Design Phase, delivered by multiple design teams, constructed by simultaneous contracts, and aerial photography will be used for base maps for the contract plans instead of the traditional photogrammetric digital topographic maps.

Estimated Mid-Point of Construction (Month/Year) 12 / 2024

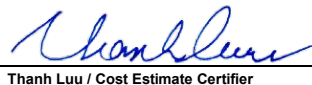
Estimated Construction End (Month/Year) 10 / 2025

Number of Plant Establishment Days 0

Estimated Project Schedule

PID Approval	6/28/2019 (A)
PA/ED Approval	7/29/2022
PS&E	3/31/2023
RTL	5/31/2023
Begin Construction	2/4/2024

Reviewed by District O.E. or
Cost Estimate Certifier


Thanh Luu / Cost Estimate Certifier

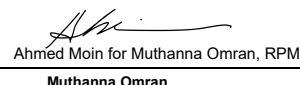
7/20/2022

Date

(510) 421-6993

Phone

Approved by Project Manager


Ahmed Moin for Muthanna Omran, RPM
Muthanna Omran

12-27-2022

Date

(510) 715-8212

Phone

I. ROADWAY ITEMS SUMMARY

	Section	Cost
1	Earthwork	\$ 84,000
2	Pavement Structural Section	\$ 51,300
3	Drainage	\$ -
4	Specialty Items	\$ 548,000
5	Environmental	\$ 5,442,600
6	Traffic Items	\$ 43,953,900
7	Detours	\$ -
8	Minor Items	\$ 1,502,400
9	Roadway Mobilization	\$ 5,158,300
10	Supplemental Work	\$ 2,798,400
11	State Furnished	\$ 4,131,300
12	Time-Related Overhead	\$ 5,158,300
13	Total Roadway Contingency	\$ 10,324,300
TOTAL ROADWAY ITEMS		\$ 79,152,800

Estimate Prepared By :


Van Hew, Project Engineer

07-14-2022

Date

510-362-6092

Phone

Estimate Reviewed By :


Atif Abrar, Senior Engineer

12/28/2022

Date

510-286-6201

Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY	x	= \$	-
19010X Roadway Excavation (Insert Type) ADL	CY	x	= \$	-
19801X Imported Borrow	CY/TON	x	= \$	-
194001 Ditch Excavation	CY	x	= \$	-
192037 Structure Excavation (Retaining Wall)	CY	x	= \$	-
193013 Structure Backfill (Retaining Wall)	CY	x	= \$	-
193031 Pervious Backfill Material (Retaining Wall)	CY	x	= \$	-
17010X Clearing & Grubbing	LS	1 x	84,000.00 = \$	84,000
100100 Develop Water Supply	LS	x	= \$	-
19801X Imported Borrow	CY/TON	x	= \$	-
21012X Duff	ACRE/SQFT	x	= \$	-
XXXXXX Some Item	Unit	x	= \$	-

TOTAL EARTHWORK SECTION ITEMS	\$ 84,000
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SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code	Unit	Quantity	Unit Price (\$)	Cost
401050 Jointed Plain Concrete Pavement	CY	x	= \$	-
400050 Continuously Reinforced Concrete Pavement	CY	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	62 x	650.00 = \$	40,300
26020X Class 2 Aggregate Base	TON/CY	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	61 x	180.00 = \$	10,980
414240 Isolation Joint Seal (Asphalt Rubber)	LF	x	= \$	-
414241 Isolation Joint Seal (Silicone)	LF	x	= \$	-
280010 Rapid Strength Concrete Base	CY	x	= \$	-
410096 Drill and Bond (Dowel Bar)	EA	x	= \$	-
390137 Rubberized Hot Mix Asphalt (Gap Graded)	TON	x	= \$	-
391006 Asphalt Binder (Geosynthetic Pavement Interlayer)	TON	x	= \$	-
290201 Asphalt Treated Permeable Base	CY	x	= \$	-
374002 Asphaltic Emulsion (Fog Seal Coat)	TON	x	= \$	-
397005 Tack Coat	TON	x	= \$	-
377501 Slurry Seal	TON	x	= \$	-
374493 Polymer Asphaltic Emulsion (Seal Coat)	TON	x	= \$	-
370001 Sand Cover (Seal)	TON	x	= \$	-
731530 Minor Concrete (Textured Paving)	CY	x	= \$	-
731502 Minor Concrete (Miscellaneous Construction)	CY	x	= \$	-
39407X Place Hot Mix Asphalt Dike (Insert Type)	LF	x	= \$	-
398100 Remove Asphalt Concrete Dike	LF	x	= \$	-
420201 Grind Existing Concrete Pavement	SQYD	x	= \$	-
398300 Remove Base and Surfacing	CY	x	= \$	-
390095 Replace Asphalt Concrete Surfacing	CY	x	= \$	-
41800X Remove Concrete Pavement	SQYD/CY	x	= \$	-
394090 Place Hot Mix Asphalt (Miscellaneous Area)	SQYD	x	= \$	-
398200 Cold Plane Asphalt Concrete Pavement	SQYD	x	= \$	-
846046 6" Rumble Strip (Asphalt Concrete Pavement)	STA	x	= \$	-
846049 6" Rumble Strip (Concrete Pavement)	STA	x	= \$	-
846051 12" Rumble Strip (Asphalt Concrete Pavement)	STA	x	= \$	-
846052 12" Rumble Strip (Concrete Pavement)	STA	x	= \$	-
420102 Groove Existing Concrete Pavement	SQYD	x	= \$	-
394095 Roadside Paving (Miscellaneous Areas)	SQYD	x	= \$	-
390136 Minor Hot Mix Asphalt	TON	x	= \$	-
XXXXXX Some Item	Unit	x	= \$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	\$ 51,300
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SECTION 3: DRAINAGE

Item code		Unit	Quantity	Unit Price (\$)	Cost
71013X	Remove Culvert	EA/LF	x	= \$	-
710240	Modify Inlet	EA	x	= \$	-
710370	Sand Backfill	CY	x	= \$	-
71010X	Abandon Culvert	EA/LF	x	= \$	-
710196	Adjust Inlet	LF	x	= \$	-
710262	Cap Inlet	EA	x	= \$	-
510501	Minor Concrete	CY	x	= \$	-
510502	Minor Concrete (Minor Structure)	CY	x	= \$	-
731627	Minor Concrete (Curb, Sidewalk, and Curb Ramp)	CY	x	= \$	-
6101XX	XX" Alternative Pipe Culvert (Insert Type)	LF	x	= \$	-
6411XX	XX" Plastic Pipe	LF	x	= \$	-
65XXXX	XX" Reinforced Concrete Pipe (Insert Type)	LF	x	= \$	-
6811XX	XX" Plastic Pipe (Edge Drain)	LF	x	= \$	-
6901XX	XX" Corrugated Steel Pipe Down drain (0.XXX" Thick	LF	x	= \$	-
7006XX	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF	x	= \$	-
7032XX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF	x	= \$	-
7050XX	XX" Steel Flared End Section	EA	x	= \$	-
703233	Grated Line Drain	LF	x	= \$	-
72XXXX	Rock Slope Protection (Type and Method)	CY/TON	x	= \$	-
72901X	Rock Slope Protection Fabric (Insert Class)	SQYD	x	= \$	-
721420	Concrete (Ditch Lining)	CY	x	= \$	-
721430	Concrete (Channel Lining)	CY	x	= \$	-
750001	Miscellaneous Iron and Steel	LB	x	= \$	-
XXXXXX	Additional Drainage	LS	x	= \$	-

TOTAL DRAINAGE ITEMS	\$	-
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SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity	Unit Price (\$)	Cost
520103	Bar Reinforced Steel (Retaining Wall)	LB	x	= \$	-
5100XX	Structural Concrete	CY	x	= \$	-
510060	Structural Concrete, Retaining Wall	CY	x	= \$	-
5201XX	Bar Reinforcing Steel	LB	x	= \$	-
080050	Progress Schedule (Critical Path Method)	LS	1	x 12,000.00	= \$ 12,000
090205	Dispute Resolution Board Onsite Meeting	EA	24	x 6,000.00	= \$ 144,000
090210	Hourly Off-Site Dispute Resolution Board-Related Tasks	HR	60	x 200.00	= \$ 12,000
582001	Sound Wall (Masonry Block)	SQFT	x	= \$	-
510530	Minor Concrete (Wall)	CY	x	= \$	-
60005X	Remove Sound Wall	LF/LS/SQFT	x	= \$	-
070030	Lead Compliance Plan	LS	1	x 5,000.00	= \$ 5,000
141120	Treated Wood Waste	LB	x	= \$	-
839750	Remove Barrier	LF	x	= \$	-
839752	Remove Guardrail	LF	x	= \$	-
710167	Remove Flared End Section	EA	x	= \$	-
8000XX	Chain Link Fence (Insert Type)	LF	x	= \$	-
80XXXX	XX" Chain Link Gate (Type CL-X)	EA	x	= \$	-
832007	Midwest Guardrail System (Wood Post)	LF	3,000	x 35.00	= \$ 105,000
832070	Vegetation Control (Minor Concrete)	SQYD	2,000	x 90.00	= \$ 180,000
839301	Single Thrie Beam Barrier	LF	x	= \$	-
839310	Double Thrie Beam Barrier	LF	x	= \$	-
839521	Cable Railing	LF	x	= \$	-
839566	Terminal System (Type CAT)	EA	x	= \$	-
839584	Alternative In-line Terminal System	EA	20	x 3,500.00	= \$ 70,000
839585	Alternative Flared Terminal System	EA	x	= \$	-
4906XX	XX" Cast-In-Drilled-Hole Concrete Piling	LF	x	= \$	-
8396XX	Crash Cushion (Insert Type)	EA	x	= \$	-
8331XX	Concrete Barrier (Insert Type)	LF	x	= \$	-
475010	Retaining Wall (Masonry Wall)	SQFT	x	= \$	-
511035	Architectural Treatment	SQFT	x	= \$	-
780460	Anti-Graffiti Coating	SQFT	x	= \$	-
780450	Rock Stain	SQFT	x	= \$	-
4730XX	Reinforced Concrete Crib Wall (Insert Type)	SQFT	x	= \$	-
83954X	Transition Railing (Insert Type)	EA	x	= \$	-
780440	Prepare and Stain Concrete	SQFT	x	= \$	-
839561	Rail Tensioning Assembly	EA	x	= \$	-
839581	End Anchor Assembly (Type SFT)	EA	20	x 1,000.00	= \$ 20,000

TOTAL SPECIALTY ITEMS	\$	548,000
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Effective immediately, districts must input estimated item quantities in blue text above in the PRSM database for the pay items listed in the Design Memo, dated April 9, 2018, when Project Report is approved (Milestone 200). [Link to Design Memo.](#)

PRSM quantity input for Look Ahead report.
PRSM quantity input for Look Ahead report.
PRSM quantity input for Look Ahead report.
PRSM quantity input for Look Ahead report.

Assume ADL in project limits

SECTION 5: ENVIRONMENTAL**5A - ENVIRONMENTAL MITIGATION**

Item code	Unit	Quantity	Unit Price (\$)	Cost
Biological Mitigation (on-site)	LS	x	= \$	-
80010X Temporary Fence (Insert Type)	LF	x	= \$	-
130670 Temporary Reinforced Silt Fence	LF	x	= \$	-
Subtotal Environmental Mitigation				\$ -

5B - LANDSCAPE AND IRRIGATION

Item code	Unit	Quantity	Unit Price (\$)	Cost
20XXXX Replacement Highway Planting	LS	1 x	45,000.00 = \$	45,000
20XXXX Modify Irrigation System	LS	1 x	90,000.00 = \$	90,000
204099 Plant Establishment Work	LS	1 x	40,000.00 = \$	40,000
20XXXX Follow-up Landscape Project	LS	x	= \$	-
206405 Remove Irrigation Facility	LS	x	= \$	-
204096 Maintain Existing Planted Areas	LS	x	= \$	-
206400 Check and Test Existing Irrigation Facilities	LS	1 x	50,000.00 = \$	50,000
208416 Certify Existing Backflow Preventers	LS	1 x	25,000.00 = \$	25,000
21011X Imported Topsoil	CY/TON	x	= \$	-
200114 Rock Blanket	SQFT/SQYD	x	= \$	-
200122 Weed Germination	SQYD	x	= \$	-
995100 Water Meter Charges	LS	x	= \$	-
2087XX XX" Conduit (Use for Irrigation x-overs)	LF	x	= \$	-
20890X Extend X" Conduit (Use for Extension of Irrigation)	LF	x	= \$	-
Subtotal Landscape and Irrigation				\$ 250,000

5C - EROSION CONTROL

Item code	Unit	Quantity	Unit Price (\$)	Cost
211111 Permanent Erosion Control Establishment Work	LS	x	= \$	-
210010 Move-In/Move-Out (Erosion Control)	EA	7 x	892.21 = \$	6,245
210350 Fiber Rolls	LF	2,000 x	4.37 = \$	8,740
210360 Compost Sock	LF	x	= \$	-
2102XX Rolled Erosion Control Product (Insert Type)	SQFT	x	= \$	-
21025X Bonded Fiber Matrix	SQFT/ACRE	x	= \$	-
210300 Hydromulch	SQFT	61,560 x	0.27 = \$	16,621
210420 Straw	SQFT	x	= \$	-
210430 Hydroseed	SQFT	61,560 x	0.39 = \$	24,008
210610 Compost	CY	190 x	131.26 = \$	24,939
210630 Incorporate Materials	SQFT			
Subtotal Erosion Control				\$ 80,554

5D - NPDES

Item code	Unit	Quantity	Unit Price (\$)	Cost
130300 Prepare SWPPP	LS	x	= \$	-
130200 Prepare WPCP	LS	x	= \$	-
130100 Job Site Management	LS	x	= \$	-
130330 Storm Water Annual Report	EA	x	= \$	-
130310 Rain Event Action Plan	EA	x	= \$	-
130320 Storm Water Sampling and Analysis Day	EA	x	= \$	-
130520 Temporary Hydraulic Mulch	SQYD	x	= \$	-
130550 Temporary Hydroseed	SQYD	x	= \$	-
130505 Move-In/Move-Out (Temporary Erosion Control)	EA	x	= \$	-
130640 Temporary Fiber Roll	LF	x	= \$	-
130900 Temporary Concrete Washout	LS	x	= \$	-
130710 Temporary Construction Entrance	EA	x	= \$	-
130610 Temporary Check Dam	LF	x	= \$	-
130620 Temporary Drainage Inlet Protection	EA	x	= \$	-
130730 Street Sweeping	LS	x	= \$	-
XXXXXX Construction Site BMPs	LS	1 x	1,700,000.00 = \$	1,700,000
XXXXXX Erosion Control BMPs	LS	1 x	1,700,000.00 = \$	1,700,000
XXXXXX Storm Water Treatment BMPs	LS	1 x	12,000.00 = \$	12,000
XXXXXX Trash Capture BMPs	LS	1 x	1,700,000.00 = \$	1,700,000
Subtotal NPDES				\$ 5,112,000

TOTAL ENVIRONMENTAL	\$ 5,442,600
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Supplemental Work for NPDES

066595 Water Pollution Control Maintenance Sharing*	LS	x	= \$	-
066596 Additional Water Pollution Control**	LS	x	= \$	-
066597 Storm Water Sampling and Analysis***	LS	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
Subtotal Supplemental Work for NDPS				\$ -

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS**6A - Traffic Electrical**

=SCI/SF/SM + SFOBB + Ala

Item code	Unit	Quantity	Unit Price (\$)	Cost	
870200 Lighting System	LS	x	= \$	-	
870300 Sign Illumination System	LS	x	= \$	-	
870400 Signal and Lighting System	LS	x	= \$	-	
870510 Ramp Metering System	LS	1	x 500,000.00	= \$ 500,000	
87181X Interconnection Conduit and Cable	LF/LS	x	= \$	-	
5602XX Furnish Sign Structure (Insert Type)	LB	x	= \$	-	
5602XX Install Sign Structure (Insert Type)	LB	x	= \$	-	
4980XX XX" CIDHC Pile (Sign Foundation)	LF	x	= \$	-	
87011X Inductive Loop Detector	EA/LS	x	= \$	-	
870600 Traffic Monitoring Station System	LS	1	x 1,800,000.00	= \$ 1,800,000	Includes 22 VDS on SFOBB
56804X Remove Sign Structure	EA/LS	x	= \$	-	
568054 Reconstruct Sign Structure	EA	x	= \$	-	
568060 Modify Sign Structure	EA	x	= \$	-	
870009 Maintaining Existing Traffic Management System	LS	1	x 50,000.00	= \$ 50,000	
870010A Maintaining Existing Fiber Optic Systems and Elec	LS	1	x 200,000.00	= \$ 200,000	
86XXXX Fiber Optic Conduit System	LS	x	= \$	-	
871200 Changeable Message Sign System	LS	1	x 250,000.00	= \$ 250,000	Includes 1 CMS on SFOBB
871300 Camera Systems	LS	1	x 5,360,000.00	= \$ 5,360,000	Used \$120k per CCTV on SFOBB per PID estimate. Assume it includes structure mount costs.
871900 Fiber Optic Cable Systems	LS	1	x 31,945,205.00	= \$ 31,945,205	
872130A Modifying Traffic Monitoring Station Systems	LS	1	x 100,000.00	= \$ 100,000	
872131 Modifying Lighting Systems	LS	1	x 500,000.00	= \$ 500,000	
872134 Modifying Ramp Metering Systems	LS	1	x 200,000.00	= \$ 200,000	
872139A Modifying Camera Systems	LS	1	x 20,000.00	= \$ 20,000	
872140A Modifying Fiber Optic Cable Systems	LS	1	x 1,000,000.00	= \$ 1,000,000	

Subtotal Traffic Electrical \$ 41,925,205

6B - Traffic Signing and Striping

Item code	Unit	Quantity	Unit Price (\$)	Cost	
820840 Roadside Sign - One Post	EA	x	= \$	-	
820850 Roadside Sign - Two Post	EA	x	= \$	-	
5602XX Furnish Sign Structure (Insert Type)	SQFT	x	= \$	-	
820890 Install Sign Panel on Existing Frame	SQFT	x	= \$	-	
846020 Remove Painted Traffic Stripe	LF	1,300	x 3.00	= \$ 3,900	
810120 Remove Pavement Marker	EA	24	x 12.00	= \$ 288	
141102 Remove Yellow Painted Traffic Stripe (Hazardous	LF	x	= \$	-	
846025 Remove Painted Pavement Marking	SQFT	210	x 3.00	= \$ 630	
820250 Remove Roadside Sign	EA	x	= \$	-	
820530 Reset Roadside Sign	EA	x	= \$	-	
820610 Relocate Roadside Sign	EA	x	= \$	-	
8101XX Delineator (Insert Class)	EA	x	= \$	-	
840502 Thermoplastic Traffic Stripe (Enhanced Wet Night	LF	1,300	x 8.00	= \$ 10,400	
846012 Thermoplastic Traffic Stripe (Enhanced Wet Night	SQFT	218	x 12.00	= \$ 2,616	
120090 Construction Area Signs	LS	1	x 50,000.00	= \$ 50,000	
84XXXX Permanent Pavement Delineation	LS	x	= \$	-	

Subtotal Traffic Signing and Striping \$ 67,834

6C - Traffic Management Plan

Item code	Unit	Quantity	Unit Price (\$)	Cost	
128652 Portable Changeable Message Sign	LS	1	x \$ 210,000	= \$ 210,000	

Subtotal Traffic Management Plan \$ 210,000

6C - Stage Construction and Traffic Handling

Item code	Unit	Quantity	Unit Price (\$)	Cost	
120198 Plastic Traffic Drums	EA	x	= \$	-	
12016X Channelizer (Insert Type)	EA	x	= \$	-	
120116 Type II Barricade	EA	x	= \$	-	
120120 Type III Barricade	EA	x	= \$	-	
129100 Temporary Crash Cushion Module	EA	x	= \$	-	
120100 Traffic Control System	LS	1	x 1,700,000.00	= \$ 1,700,000	
129110 Temporary Alternative Crash Cushion	EA	4	x 4,700.00	= \$ 18,800	
129000 Temporary Railing (Type K)	LF	400	x 80.00	= \$ 32,000	
120149 Temporary Pavement Marking (Paint)	SQFT	x	= \$	-	
120152 Temporary Pavement Marking (Tape)	SQFT	x	= \$	-	
8101XX Delineator (Insert Class)	EA	x	= \$	-	

Subtotal Stage Construction and Traffic Handling \$ 1,750,800

TOTAL TRAFFIC ITEMS \$ 43,953,900

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity	Unit Price (\$)	Cost
190101 Roadway Excavation	CY	x	= \$	-
19801X Imported Borrow	CY/TON	x	= \$	-
390132 Hot Mix Asphalt (Type A)	TON	x	= \$	-
26020X Class 2 Aggregate Base	CY/TON	x	= \$	-
250401 Class 4 Aggregate Subbase	CY	x	= \$	-
130620 Temporary Drainage Inlet Protection	EA	x	= \$	-
129000 Temporary Railing (Type K)	LF	x	= \$	-
128601 Temporary Signal System	LS	x	= \$	-
120149 Temporary Pavement Marking (Paint)	SQFT	x	= \$	-
80010X Temporary Fence (Insert Type)	LF	x	= \$	-
XXXXXX Some Item	LS	x	= \$	-
TOTAL DETOURS				\$ -

SUBTOTAL SECTIONS 1 through 7 \$ 50,079,800

SECTION 8: MINOR ITEMS**8A - Americans with Disabilities Act Items**

ADA Items 0.0% \$ -

8B - Bike Path Items

Bike Path Items 0.0% \$ -

8C - Other Minor Items

Other Minor Items 3.0% \$ 1,502,394

Total of Section 1-7 \$ 50,079,800 x 3.0% = \$ 1,502,394

TOTAL MINOR ITEMS \$ 1,502,400**SECTIONS 9: ROADWAY MOBILIZATION ***

Item code						
999990	Total Section 1-8	\$ 51,582,200	x	10%	= \$	5,158,220

TOTAL ROADWAY MOBILIZATION \$ 5,158,300**SECTION 10: SUPPLEMENTAL WORK**

Item code	Unit	Quantity	Unit Price (\$)	Cost
066670 Payment Adjustments For Price Index Fluctuations	LS	x	= \$	-
066094 Value Analysis	LS	1	x 10,000.00	= \$ 10,000
066070 Maintain Traffic	LS	1	x 100,000.00	= \$ 100,000
066919 Dispute Resolution Board	LS	x	= \$	-
066921 Dispute Resolution Advisor	LS	x	= \$	-
066015 Federal Trainee Program	LS	1	x 19,200.00	= \$ 19,200
066610 Partnering	LS	1	x 90,000.00	= \$ 90,000
066204 Remove Rock and Debris	LS	x	= \$	-
066222 Locate Existing Crossover	LS	x	= \$	-
XXXXXX Some Item	Unit	x	= \$	-

Cost of NPDES Supplemental Work specified in Section 5D = \$ -

Total Section 1-8 \$ 51,582,200 5% = \$ 2,579,110

TOTAL SUPPLEMENTAL WORK \$ 2,798,400

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
066105	Resident Engineers Office	LS	1	x	1,033,000.00	=	\$1,033,000
066063	Traffic Management Plan - Public Information	LS	1	x	10,000.00	=	\$10,000
066901	Water Expenses	LS		x		=	\$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	\$0
066841	Traffic Controller Assembly	LS		x		=	\$0
066840	Traffic Signal Controller Assembly	LS		x		=	\$0
066871	Electrical Service Connections	LS	1	x	300,000.00	= \$	300,000
066062	COZEEP Contract	LS	1	x	725,000.00	=	\$725,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	\$0
066065	Tow Truck Service Patrol	LS		x		=	\$0
066916	Annual Construction General Permit Fee	LS		x		=	\$0
XXXXXX	Railroad Work	LS	1	x	112,000.00	=	\$112,000
Total Section 1-8		\$	51,582,200	4%	=	\$	1,951,288

TOTAL STATE FURNISHED	\$4,131,300
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SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization \$51,582,200 (used to calculate total TRO)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price (\$)	=	Cost
090100	Time-Related Overhead	WD	425*	X	#VALUE!	=	\$5,158,300

TOTAL TIME-RELATED OVERHEAD	\$5,158,300
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SECTION 13: ROADWAY CONTINGENCY*

Risk Amount from Risk Register	(for Known Risks)	0%	
Additional or Residual Contingency	(for Unknown/Undefined Risks)	15%	\$10,324,275
Total Section 1-12	\$ 68,828,500	x 15%	= \$10,324,275

TOTAL CONTINGENCY*	\$10,324,300
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II. STRUCTURE ITEMS

	<u>Bridge 1</u>		<u>Bridge 2</u>		<u>Bridge 3</u>
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Bridge Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Bridge Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0
COST OF EACH	\$0		\$0		\$0

	<u>Bridge 4</u>				
DATE OF ESTIMATE	00/00/00		00/00/00		00/00/00
Bridge Name	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Bridge Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXX
Cost Per Square Foot	\$0		\$0		\$0
COST OF EACH	\$0		\$0		\$0

TOTAL COST OF BRIDGES	\$0
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TOTAL COST OF BUILDINGS	\$0
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Time-Related Overhead	10%	\$0
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STRUCTURES MOBILIZATION	10%	\$0
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STRUCTURES CONTINGENCY*	25%	\$0
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TOTAL COST OF STRUCTURES	\$0
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Estimate Prepared By: _____
 XXXXXXXXXXXXXXXXXXXX ----- Division of Structures

 Date

EA: 04-2Q7400 PID: 0419000044

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

			<i>Current Value Future Use</i>		<i>Escalated Value</i>
A)	A1)	Acquisition, including Excess Land, Fees, Damages, Goodwill	\$	0	\$ 0
	A2)	Acquisition of Offsite Mitigation	\$	0	\$ 0
	A3)	Railroad Acquisition	\$	0	\$ 0
B)	B1)	Utility Relocation (State Share)	\$	200,000	\$ 200,000
	B2)	Potholing (Design Phase)	\$	0	\$ 0
C)	Utility - Advance Engineering Estimate (Encumber with State Only Funds)		\$	0	\$ 0
	Railroad			118,540	118,540
D)	RAP and/or Last Resort Housing		\$	0	\$ 0
E)	Clearance & Demolition		\$	0	\$ 0
F)	Relocation Assistance (RAP and/or Last Resort Housing Costs)		\$	0	\$ 0
G)	Title and Escrow		\$	0	\$ 0
H)	Environmental Review		\$	0	\$ 0
I)	Condemnation Settlements	<u>0%</u>	\$	0	\$ 0
J)	Design Appreciation Factor	<u>0%</u>	\$	0	\$ 0
K)	Utility Relocation (Construction Cost)		\$	0	\$ 0

L)	TOTAL RIGHT OF WAY ESTIMATE	\$318,600
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M)	TOTAL R/W ESTIMATE: Escalated	\$318,600
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N)	RIGHT OF WAY SUPPORT	\$128,385
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Support Cost Estimate
Prepared By _____ Project Coordinator¹ _____ Phone _____

Utility Estimate Prepared By _____ Utility Coordinator² _____ Phone _____

R/W Acquisition Estimate
Prepared By _____ Right of Way Estimator³ _____ Phone _____

Note: Items G & H applied to items A + B

¹ When estimate has Support Costs only² When estimate has Utility Relocation³ When R/W Acquisition is required

Hew, Van@DOT

From: Lassalle, Pierre@DOT
Sent: Friday, December 10, 2021 11:23 AM
To: Hew, Van@DOT
Cc: Acuna, Einar@DOT; Mendivil, Javier@DOT; Aguilera, Peter P@DOT
Subject: EA 2Q7401: Electrical Ballpark Estimate-Alameda County

Hi Van, shown below is the ballpark estimate for the Electrical work related to the proposal described in the PIR for Alameda County. This also includes the new locations added by the MTC.

870009	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	\$50,000
870010A	MAINTAINING EXISTING FIBER OPTIC SYSTEMS AND ELECTRONIC TOLLING SYSTEMS DURING CONSTRUCTION	LS	\$200,000
870510	RAMP METERING SYSTEM	LS	\$500,000
870600	TRAFFIC MONITORING STATION SYSTEM	LS	\$800,000
871300	CAMERA SYSTEMS	LS	\$200,000
871900	FIBER OPTIC CABLE SYSTEMS	LS	\$16,000,000
872130A	MODIFYING TRAFFIC MONITORING STATION SYSTEMS	LS	\$100,000
872131	MODIFYING LIGHTING SYSTEMS	LS	\$500,000
872134	MODIFYING RAMP METERING SYSTEMS	LS	\$200,000
872139A	MODIFYING CAMERA SYSTEMS	LS	\$20,000
872140A	MODIFYING FIBER OPTIC CABLE SYSTEMS	LS	\$1,000,000
066871	ELECTRICAL SERVICE CONNECTIONS	LS	\$300,000

Please note the following points:

- This estimate does not include the costs for Traffic Control or contingencies.
- This estimate does not include the costs for the proposed Electrical work in SF, SM or SCI counties, or on the SFOBB or in the Posey and Webster Tubes. Please coordinate with the Electrical Branch Chiefs responsible for those areas for an estimate of those Electrical costs.
- This estimate does not include the costs for the proposed Electrical work to bring a FO Cable to the DO. There is already an existing State FO cable connection to a BART FO Cable in a FO Splice Cabinet at 23rd Ave/Northgate Ave in the City of Oakland. The State's FO Cable extends from there to the DO. It is suggested to contact BART in order to provide a new BART FO Cable connection at a new FO HUB in Oakland installed along the path of the proposed FO Cable installation of this project. Another option would be to contact the City of Oakland for a connection point to their FO Cable System somewhere along the path of the proposed FO Cable installation of this project. Please contact Hector Garcia, Office Chief of Electrical Systems, for assistance.
- This estimate does not include the costs for the installation of MGS/Concrete Barriers or additional MVPs, or the modifications to any existing Electrical Systems affected by those new barrier/MVP installations. Once those barrier/MVP locations are provided, then I'll be able to provide a ballpark estimate for the affected Electrical Systems in Alameda County.
- Some locations in the City of Oakland are adjacent to the UPPR Railroad tracks. This may impact the ability to install any State electrical equipment (Fiber Optic, TMS, RM, Camera) at those locations. Please coordinate with

the UPRR. The estimates that I have provided assume that the Railroad will give permission to work on or adjacent to their R/W but does not include any costs related to Permits or Insurance.

- The WB Rte 980 to SB Rte 880 connector is an existing structure through its entire length. This will impact the ability to install any Ramp Metering equipment on this connector. Please coordinate with the HQ Office of Structure Design for permission to install new poles, sign posts, pull boxes, conduit and detectors on this existing structure. If allowed, then they will have to provide installation details for that equipment on this existing structure. The estimate that I have provided is for installing Electrical equipment on a new Structure, not on an existing Structure.
- The FIBER OPTIC CABLE SYSTEMS estimate includes the installation of new conduit and splice enclosures on the outside of existing structures. Please coordinate with the HQ Office of Structure Design for permission to install new conduit and enclosures on these existing structures. If allowed, then they will have to provide the installation details for that equipment on these various structures.
- The FIBER OPTIC CABLE SYSTEMS estimate includes the installation of two State Fiber Optic HUBs. Please contact Hector Garcia, Office Chief of Electrical Systems, for the location of these HUBs.

Thank you.

Pierre Lassalle
Associate Transportation Electrical Engineer
D4-Electrical Design and Operations
(510) 421-6455

pierre.lassalle@dot.ca.gov

Y&C TRANSPORTATION CONSULTANTS, INC.
 Project: D4 TO3 Fiber Optic Cable Installation
 Project No.: 129622
 Submittal: 1 st
 Date: 2-1-22
 PA ED Elecrtical Items Construction Cost Estimate

Route 101 SM County PM 20.8/26.1 (San Bruno Ave to Beatty Ave)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
871900	FIBER OPTIC CABLE SYSTEMS	LS	1	\$1,608,000.00	\$1,608,000.00
872134	MODIFYING RAMP METERING SYSTEMS	LS	1	\$462,000.00	\$462,000.00
872135	MODIFYING TRAFFIC MONITORING STATION SYSTEMS	LS	1	\$363,000.00	\$363,000.00
872139A	MODIFYING CAMERA SYSTEMS	LS	1	\$132,000.00	\$132,000.00
872140A	MODIFYING CHANGEABLE MESSAGE SIGN SYSTEMS	LS	1	\$33,000.00	\$33,000.00
872149A	MODIFYING HIGHWAY ADVISORY RADIO SYSTEMS	LS	1	\$33,000.00	\$33,000.00
	SUBTOTAL:				\$2,631,000.00
	30% CONTINGENCY				\$789,300.00
	TOTAL :				\$3,420,300.00

Route 101 SF County PM 0.0/4.24 (Beatty Ave to Rte 80)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
871900	FIBER OPTIC CABLE SYSTEMS	LS	1	\$1,287,000.00	\$1,287,000.00
872135	MODIFYING TRAFFIC MONITORING STATION SYSTEMS	LS	1	\$264,000.00	\$264,000.00
872139A	MODIFYING CAMERA SYSTEMS	LS	1	\$165,000.00	\$165,000.00
872140A	MODIFYING CHANGEABLE MESSAGE SIGN SYSTEMS	LS	1	\$99,000.00	\$99,000.00
	SUBTOTAL:				\$1,815,000.00
	30% CONTINGENCY				\$544,500.00
	TOTAL :				\$2,359,500.00

Route 880 SCI County PM 4.0/10.4 (Rte 101 to Dixon Rd)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
871900	FIBER OPTIC CABLE SYSTEMS	LS	1	\$1,942,000.00	\$1,942,000.00
872134	MODIFYING RAMP METERING SYSTEMS	LS	1	\$759,000.00	\$759,000.00
872139A	MODIFYING CAMERA SYSTEMS	LS	1	\$66,000.00	\$66,000.00
872140A	MODIFYING CHANGEABLE MESSAGE SIGN SYSTEMS	LS	1	\$33,000.00	\$33,000.00
872149A	MODIFYING HIGHWAY ADVISORY RADIO SYSTEMS	LS	1	\$33,000.00	\$33,000.00
872150A	MODIFYING EXTINGUISHABLE MESSAGE SIGN SYSTEMS	LS	1	\$33,000.00	\$33,000.00
	SUBTOTAL:				\$2,866,000.00
	30% CONTINGENCY				\$859,800.00
	TOTAL :				\$3,725,800.00

Route 237 SCI County PM 8.0/9.3 (Zanker Rd to Rte 880)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
871900	FIBER OPTIC CABLE SYSTEMS	LS	1	\$395,000.00	\$395,000.00
872134	MODIFYING RAMP METERING SYSTEMS	LS	1	\$132,000.00	\$132,000.00
	SUBTOTAL:				\$527,000.00
	30% CONTINGENCY				\$158,100.00
	TOTAL :				\$685,100.00

From: Presentation, John@DOT
To: Boozarpour, Parviz@DOT; Hew, Van@DOT
Cc: Cheema, Gursharnjeet@DOT; Mendivil, Javier@DOT
Subject: RE: 2Q740_ITS APS for SFOBB-West
Date: Monday, December 27, 2021 12:11:26 PM

Hello Hew Van/Parviz

For installation of the fiber conduit and pull box in the Bay bridge west span will cost \$ 2,164,205.

Thank you
John

From: Boozarpour, Parviz@DOT <parviz.boozarpour@dot.ca.gov>
Sent: Monday, December 20, 2021 4:42 PM
To: Presentation, John@DOT <john.b.presentation@dot.ca.gov>
Cc: Cheema, Gursharnjeet@DOT <gursharnjeet.cheema@dot.ca.gov>
Subject: FW: 2Q740_ITS APS for SFOBB-West

John,

Please review the estimate and respond.

Thanks,
Parviz Boozarpour
Electrical Design IV
(510)772-8321

From: Hew, Van@DOT <van.hew@dot.ca.gov>
Sent: Monday, December 20, 2021 12:09 PM
To: Boozarpour, Parviz@DOT <parviz.boozarpour@dot.ca.gov>
Cc: Moin, Ahmed A@DOT <ahmed.moin@dot.ca.gov>; Laymoun, Moaid@DOT <moaid.laymoun@dot.ca.gov>; Omran, Muthanna S@DOT <muthanna.omran@dot.ca.gov>; Aguilera, Peter P@DOT <peter.aguilera@dot.ca.gov>
Subject: FW: 2Q740_ITS APS for SFOBB-West

Hi Parviz,

Please verify the attached draft from the PM and provide comments and /or concurrence before we send it to Str SOE for Estimating. Last month, your group helped with estimating the cost of the TOS elements on the SFOBB west span (see attached email).

Thank You,

Van Hew

From: [Mendivil, Javier@DOT](mailto:Mendivil,Javier@DOT)
To: [Hew, Van@DOT](mailto:Hew,Van@DOT)
Subject: FW: ALA/SF/SM/SCL TOS Project EA 04-2Q740 PDT #4
Date: Monday, November 15, 2021 2:06:39 PM

From: Presentation, John@DOT <john.b.presentation@dot.ca.gov>
Sent: Tuesday, November 9, 2021 12:31 PM
To: Mendivil, Javier@DOT <Javier.Mendivil@dot.ca.gov>
Cc: Cheema, Gursharnjeet@DOT <gursharnjeet.cheema@dot.ca.gov>; Boozarpour, Parviz@DOT <parviz.boozarpour@dot.ca.gov>
Subject: RE: ALA/SF/SM/SCL TOS Project EA 04-2Q740 PDT #4

Hello Javier,

Here is the revised cost break down as shown below, with reference to your new attachment, you send me on 11/14 Thursday

1. For 43 cameras. - 2000,000 (Any structural cost is extra. This cost include old cameras and wiring system removal and installation of 21 new cameras and wiring. Also upgrade of all the hardware inside the cabinet. The estimate does not include any structural work or lane closure.
2. For 22 VDS 's - 1000,000
3. For 1 CMS system - 250,000

Thank you
John

From: Mendivil, Javier@DOT <Javier.Mendivil@dot.ca.gov>
Sent: Thursday, November 4, 2021 3:27 PM
To: Presentation, John@DOT <john.b.presentation@dot.ca.gov>
Subject: FW: ALA/SF/SM/SCL TOS Project EA 04-2Q740 PDT #4

From: Hew, Van@DOT <van.hew@dot.ca.gov>
Sent: Wednesday, November 3, 2021 5:12 PM
To: Mendivil, Javier@DOT <Javier.Mendivil@dot.ca.gov>
Cc: Aguilera, Peter P@DOT <peter.aguilera@dot.ca.gov>
Subject: RE: ALA/SF/SM/SCL TOS Project EA 04-2Q740 PDT #4

Attachment L

Risk Register

RISK REGISTER LEVEL		2	PROJECT NAME		Install and upgrade Transportation Management System (TMS) elements including Closed Circuit Television (CCTV) cameras, Vehicle Detection Systems (VDS), Changeable Message Signs (CMS), ramp meters, and fiber optic cable		DIST-EA	04-2Q740 (0419000044)	Project Manager	Muthanna Omran	RISK MANAGER	Gurmukh Thiara			TOTAL COST (Capital +Support)		\$103,149,000.00	
PROJECT PHASE		PA&ED	PDT MEMBERS				RISK ASSESSMENT INFORMATION							TOTAL DAYS (Construction + Initial review (30 days)+ Closeout (60 days))		590		
Risk Identification							Probability	Cost Impact		Time Impact		Phase	Capital / Support	Individual Risk	Risk Response			
Status	ID #	Category	Title	Risk Statement	Current Status/ Assumptions	Rating	Rating	Score	Rating	Score	ENG/ CON	C/S	Rationale	Strategy	Response Actions	Risk Owner	Updated	
Active	1	Design	Electrical Power Source	PG&E may delay installation of new service connection or have changed location than originally planned, leading to redesign & project construction delays resulting in additional cost.	The proposed TMS are assumed to be powered by electrical sources already available.	2-Low	02-Low	4	02-Low	4	ENG	C	Based on PDT's input and past projects of similar scope.	Mitigate	Any potential need for new power point will be determined by Design during PS&E phase. ROW to work closely with PG&E to establish needed service points in timely manner.	Design	6/9/2022	
Active	2	Design	Scope Change	The proposed scope for ramp metering may change in the next phase when the forecast peak hour volume is available to determine the final scope. As result of higher traffic volumes it may result in ramp widening increase in project cost and schedule.	Ramps with new / repair ramp meters may need upgrades to accommodate capacity demand.	2-Low	02-Low	4	02-Low	4	ENG	C	Based on the input from PDT.	Accept	As soon as traffic analysis is available, team to begin preliminary strategy for assesment of adjusting ramp capacity.	Design	6/9/2022	
Active	3	Construction	Unidentified Utility Conflicts	Unanticipated utilities may be encountered during construction leading to extra work for relocation or mitigation resulting to additional project costs and schedule delays.	Utility verification will be requested during PS&E phase.	3-Moderate	04-Moderate	12	02-Low	6	CON	C	Based on PDT's input and past projects of similar scope.	Mitigate	Known utilities will be incorporated in the project plans and specifications during PS&E. Trenching operations may affect existing utilities. If any unidentified utilities are encountered during construction, RE to work with ROW and design to resolve the issue.	Construction	6/9/2022	
Active	4	Construction	Coordination with Concurrent Projects	Concurrent project may have construction work at or near the highway which may conflict or duplicate the planned highway work or conflict with lane closure resulting to an increase in project coordination or increase in cost.	Project covers a big area around various routes where other project may be planned with overlapping construction schedule. Local agency projects are not known to the State, unless disclosed during plan review.	3-Moderate	02-Low	6	02-Low	6	CON	C	Based on PDT's input and past projects of similar scope.	Mitigate	Design and PM to investigate if there are any concurrent project in the area from state and local agencies and include such projects in the project specification during PS&E. If any unidentified project conflicts exist during construction, PM/RE to work with the pertinent agency.	PM/Design	6/9/2022	
Active	5	Environmental	Coodination with Regulatory Agencies	Coordination with regulatory agencies may take longer than expected leading to extended schedule and possible additional constraints to the project resulting in additional cost and schedule delays.	Consultation with BCDC will be required.	2-Low	02-Low	4	02-Low	4	ENG	S	Based on PDT's input and past projects of similar scope.	Mitigate	Environmental to start coordination efforts at the earliest with regulatory agencies and work towards the timely approvals.	Environmental	6/9/2022	
Active	6	Construction	Traffic Control & Safety Measures	Additional traffic control measures may be needed to protect the work zone from live traffic resulting in additional costs to the project.	Some of the sections of fiber optic line may be too close to live traffic.	2-Low	02-Low	4	02-Low	4	CON	C	Based on PDT's input and past projects of similar scope.		If additional traffic control measures/devices need to be installed during construction, RE to work with Design/Traffic Operations to resolve the issue and tap into contingency funds to cover the additional cost.	Construction	6/9/2022	
Active	7	PM	Project Cost Increase	Project cost and/or incoming project's bid may be higher than expected due to changing economic conditions leading to funding shortfall and, thereby, resulting in additional cost and schedule delays.	Project cost may increase beyond the programmed amount due to the ongoing supply shortage and inflation issues. At present, escalation rate of 3.2% was used for cost calculation.	2-Low	04-Moderate	8	02-Low	4	ENG	C	Increasing material cost due to gas price and inflation.	Accept	Project cost estimate will be updated during PS&E phase based on the most up to date cost data. If the risk materializes and project cost/incoming bids are higher than expected, project manager will consult with program advisor and explore the availables options.	PM	6/9/2022	
Active	8	PM	Bid Solicitation	department may find difficulties to generate interest of contractors bidding, due to hard time finding specialty contractor to construct the project resulting in project delays.	During improving economy and lack of specialty contractors can cause issues to obtain favorable bidding interest.	3-Moderate	04-Moderate	12	02-Low	6	ENG	C	Based on the input from PDT.	Mitigate	Department to conduct outreach workshops to generate awareness about the project and provide information to draw potential contractor community's interest.	PM	6/9/2022	
Active	9	Construction	Theft & Vandalism	Unanticipated material/equipment theft or vandalism may occur during construction leading to unexpected replacement costs or repairs resulting in additional costs to the project.	Project site may need to install preventative measures to deter theft. Theft activity has seen an increase in recent times.	3-Moderate	02-Low	6	02-Low	6	CON	C	Based on PDT's input and past projects of similar scope.	Accept	Deterrent measures or surveillance system may need to be implemented as part of the project. This risk is to cover the cost if such incident occurs during the construction of the project.	Construction	6/9/2022	
Active	10	ROW	Railroad Coordination	Any construction work that is to be performed on or near rail road will need the authorities input and approval. Any delays in the authority's concurrences will delay the project schedule resulting in additional cost and schedule delays.	Several railroad crossings are present with the project limits.	3-Moderate	02-Low	6	04-Moderate	12	ENG	S	Based on PDT's input and past projects of similar scope.		Design to engage the R/W Railroad Coordinator at the beginning of PS&E so that Railroad Authorities can be notified and begin the process as soon as possible.	ROW	6/9/2022	
Active	11	ROW	Additional TCE/PTEC	The project may need to encroach on adjacent properties temporarily to carry out work, leading to temporary construction easement (TCE/PTEC) that was not identified early on the project resulting in additional cost and schedule delays.	PCE/PTEC will be required from City of Oakland to construct the section connecting CT District 4 office building to Route 880.	3-Moderate	02-Low	6	02-Low	6	CON	S	Based on the input from PDT.	Accept	Design to identify any need for TCE and work with ROW to start early coordination with pertinent agencies/owners for agreements. Construction to coordinate with ROW for any additional need for TCE/PTEC during construction.	ROW	6/9/2022	
Active	12	Construction	Hazardous Material	Unanticipated hazardous materials encountered during construction may require mitigation, removal and disposal resulting in additional costs to the project.	Aerially deposit lead may be present along roadside in heavy traffic areas.	2-Low	02-Low	4	02-Low	4	CON	C	Based on PDT's input and past projects of similar scope.	Avoid	Site assessment for hazardous material will be conducted during PS&E phase. If risk materialize, the project's contingency will be used to cover the cost from additional work.	Environmental	6/9/2022	
Active	14	Environmental	Bird Nesting Season	Nesting birds, protected from harassment under the Migratory Bird Treaty Act, may require additional construction activity work around during the bird nesting season resulting to additional project cost and schedule delays	Prior to construction, the project footprint and immediate vicinity will be surveyed for nesting birds. Bird Nesting season is from February 1 and September 30 of the current construction season.	2-Low	02-Low	4	02-Low	4	CON	S	Based on PDT's input and past projects of similar scope.	Mitigate	All the necessary bird mitigation measures and specifications will be included in the project plans and specification during PS&E. If nesting birds are encountered near construction activity, contractor will need to stop all nearby construction activities and RE to notify the biologist. Construction activities will only proceed when the area is cleared by the biologist.	Environmental	6/9/2022	

RISK REGISTER LEVEL		2	PROJECT NAME		Install and upgrade Transportation Management System (TMS) elements including Closed Circuit Television (CCTV) cameras, Vehicle Detection Systems (VDS), Changeable Message Signs (CMS), ramp meters, and fiber optic cable.		DIST-EA	04-2Q740 (0419000044)	Project Manager	Muthanna Omran	RISK MANAGER	Gurmukh Thiara			TOTAL COST (Capital +Support)		\$103,149,000.00			
PROJECT PHASE		PA&ED	PDT MEMBERS				RISK ASSESSMENT INFORMATION							TOTAL DAYS (Construction + Initial review (30 days)+ Closeout (60 days))		590				
Risk Identification							Probability	Cost Impact		Time Impact		Phase	Capital / Support	Individual Risk	Risk Response					
Status	ID #	Category	Title	Risk Statement		Current Status/ Assumptions		Rating	Rating	Score	Rating	Score	ENG/ CON	C/S	Rationale	Strategy	Response Actions		Risk Owner	Updated
Active	15	Environmental	Federally/State Listed Species	Federally/State listed species found in project site may impact construction activities leading to stopped work resulting in additional project cost and schedule delays.		Federally and state listed species may be encountered in the work zone.		2-Low	02-Low	4	02-Low	4	CON	C	Based on PDT's input and past projects of similar scope.	Accept	Perform early field reviews to evaluate and investigate potential presence of special species. If any special species are encountered during construction, biologist to assess the conditions before the work area is cleared for furthur construction activities.		Environmental	6/9/2022